

Cultural Psychology of Education 7

Jaen Valsiner · Anastasiia Lutsenko
Alexandra Antoniouk *Editors*

Sustainable Futures for Higher Education

The Making of Knowledge Makers

 Springer

Cultural Psychology of Education

Volume 7

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ISSN 2364-6780 ISSN 2364-6799 (electronic)
Cultural Psychology of Education
ISBN 978-3-319-96034-0 ISBN 978-3-319-96035-7 (eBook)
<https://doi.org/10.1007/978-3-319-96035-7>

Library of Congress Control Number: 2018947777

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This Springer imprint is published by the registered company Springer Nature Switzerland AG
The registered company address is: Gewerbestrasse 11, 6330 Cham, Switzerland

Preface of the Series Editor

*Your true educators and formative
teachers reveal to you
what the real raw material of your being is,
something quite uneducable,
yet in any case accessible only with
difficulty, bound, paralyzed:
your educators can be only your liberators
(Nietzsche, 1983, p. 126)*

Higher Education: Oppression or Liberation?

Higher education is both oppressive and oppressed in its current state! During the last decade, in the increasing frequency of my academic travels and in the events of my own professional trajectory, I have been facing those negative aspects of the academic life, over and over again. In different countries, I have met Ph.D. students oppressed by the pressure to strictly follow the methodological and theoretical framework of analysis of their supervisors. I have witnessed their passionate striving for the intellectual right of exploring new ways of doing research. I have seen them systematically downsized by the rigid system of rules in place almost everywhere in order to have their dissertations accepted. The same form of oppression is in place when one wants to have her articles published. The existing monologic and evidence-based way to define what is “scientifically relevant” is the major oppressive force against the knowledge construction.

Science emerges in dialogue. The overabundant restrictions of any sort are killing the intellectual effort to produce new system of thoughts.

Higher education should be the platform for helping human beings in finding a variety of codes to make sense of the experiences. Getting a degree does not make the university student better than another illiterate fellow. It only provides the way to escape a standardized and common sense modality of understanding the reality. Higher education is then about freedom! Or, at least it should be.

We are instead observing that the higher education system is performing like a military or religious educational setting, where the adherence to a certain credo or set of rules is more valued than any exploration of new possible worlds (Marsico 2015).

Yet the academic system is oppressed by different economic instances. As several authors in the book discuss, higher education should be indeed sustainable, usable, and transferable. These parameters are rooted in the new pressing standards of productivity and in the new ideology of practical usability of science and technology. This leads, for example, to the monstrosity of the ongoing debate in the Italian educational system about taking discipline as “art” of the curriculum. This is just an outrage, but it is perfectly understandable if one assumes the rampant contemporary pragmatic stance on education.

Valsiner, Lutsenko, and Antoniouk’s book provides the social–cultural and historical coordinates to understand the complexity of the twenty-first-century universities all over the world. They accompany the reader, throughout a variety of contributions, to understand why the original Humboldtian spirit is almost suppressed, in favor of a technologization and commodification of the knowledge construction. Is there any possibility to get it back?

If the University of Antarctica Project (Valsiner 2018a) is a utopia (even if a humorous one), the “university without borders” is a concrete example of a possible use of the private marketing system applied to higher education. This book seems to suggest a possible way to play the game and make a creative use (or cheat) some of the current neoliberalism trends that dominate the academic world.

In the Conclusion chapter of the volume, Jaan Valsiner claims that: “*Academics are naïve. They like to believe in the beautiful ideals of academic freedom and the relevance of their life-works* (Valsiner 2018b p. XXX). I do agree, and I still consider this naïveté the only way to resist the incumbent forms of oppression and to preserve the higher education system from its ultimate dissolution.

Salvador da Bahia, Brazil
May 2018

Giuseppina Marsico

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Preface

Utopia for Practice: The University of Antarctica Project

The bubble of higher education in our globalizing world is on the verge of bursting. The economic bases for sustaining the autonomy of universities are becoming limited, and the funding from corporate or governmental resources set up constrains upon the knowledge creation functions of higher education. Through the noble idea that higher education should contribute to *the society*, we can observe various practices of turning universities into factories of mass producing specialists with certificates of various competences. Higher education is increasingly widespread among ordinary citizens who nevertheless are dependent on the economic realities of job markets—with, or without, such educational achievements. The diplomas and various degree certificates are outcome markers of higher education.

Would the arrival at these outcomes be linked with producing new knowledge? That question is increasingly difficult to answer in a framework where ever new “quality assessment” schemes are being introduced. The assessed “quality” of the ways in which higher education certificates are being obtained may grow, but universities can be seen increasingly turned into extensions of secondary education institutions. They become “schools” with fixed timetable of lectures, examinations, and requirements—rather than arenas where young eager and interested students search for new basic ways to understand the world, together with their teachers who continue their similar quest for knowledge over their life course.

At the same time of the making of schools out of universities, we can observe the increasing interest in appropriation of the new knowledge that could emerge in the higher education context. It is becoming a regular practice that students’ research projects become copyrighted by the universities to which they belong. Similarly, in many fields of commercial profit possibilities different corporations are ready to capture the patents-ready knowledge (and knowledge makers) by providing funding for the kind of research of their interests. Under the conditions of diminishing public funding of universities and regular need for resources, universities are often ready—or even desiring—such financial support from the private business. The

new knowledge created in universities with the funding of corporations is made into the intellectual property that is patented—and hence vanishes from the public domain. The knowledge potential of universities becomes restricted—and the autonomy of the universities limited. On the other side—in case of the public nature of the universities—it is the government fiscal and political system that curbs the growth of universities.

Over my four decades in academic life experiencing universities all over the world and seeing similar struggles everywhere, a utopian—half-joking—project for an ideal university has at times occurred to me. This utopia—I call it my “University of Antarctica Project”—is of course a slightly ironic joke. It entails the image of building a new university somewhere where the political interests of governments may be remote—Antarctica may be the only remaining place on the Globe for that. The University of Antarctica would have very silent and eager students (penguins?) who would politely listen to the active faculty members who sit in the snow and discuss futures of basic science. And when bored by such discussions, the “students” would just jump into the water to go fishing. Sustainability of such utopian idea may be laughingly questioned and considered. Yet it has some features that would improve the present state of affairs in universities worldwide. This university would have no faculty meetings that would sidetrack the academics from their main function—creating knowledge—into socially situated practices of mundane gossip, infighting, and useless voting for oftentimes irrelevant causes. There would be no “sexual harassment policies”—as one would not expect the faculty to have either knowledge or inclination to relate this way toward the diligently obedient penguins. There will be no need for “diversity policies” as the homogeneous white environment of snow and ice would bring to clear focus the diversity of the faculty members from their environments and from the students. It would be an ideal university most of us in our mischievous minds have desired as we entered into academia—and rarely if ever found in reality. Humorous reflection upon ourselves is a great necessity in the lives of today’s academics.

Of course, this project is deeply utopian—none of us would happily relocate from our home bases to the wide snowfields of Antarctica, even if the opportunities were given and salaries raised from the real to normal levels. Building utopias is one of the few privileges we have in universities governed by the new management models, and maybe from these it may be possible to learn how to build something really new within the given settings. The key question is *adequate autonomy* of the universities—a notion known since the nineteenth century in Europe under the ideas of Wilhelm von Humboldt. It could be possible to introduce silent reorganizational forms into our actual university lives so as to protect and develop the autonomy of higher education. It is only through the maintenance and proliferation of such relative independence that the service to societies that is *ahead* of the immediate needs of the society. If the knowledge base of a society is equal to its present needs, all science would become applied science and lose its generative power.

This book was conceived in the framework of wider thinking of science and society relationship that go beyond the immediate issues of “needs of *the* society.” Given the high heterogeneity of goals-directed institutional interests within any society that usually contradict or sometimes clash with one another, talking of any version of unified interests or needs of *the* society can only be non-trusted (Valsiner 2005). I was interested in building a multi-sided look at knowledge construction in systems of higher education in general—through juxtaposing the experiences of educators from different societies. As a lucky coincidence, Alexandra Antoniouk organized a Humboldt Kolleg Meeting in Kyiv on June 12–15, 2014, on the general theme *Education and Science and their Role in Social and Industrial Progress of Society*. A number of contributions to this book were solicited after the meeting in Kyiv—hence this volume has a definite “Ukrainian accent.” Our gratitude goes to Alexander von Humboldt-Stiftung for promotion of the theme of society and education relationships that becomes particularly important in areas on the world where new developments are currently unfolding—such as India, New Zealand, Brazil, Ukraine, and Estonia (to name the coverage of participants in this volume). I hope that the variety of ideas found in this book will reach the creative minds of potential builders of new forms of higher education—at the times when the creation of new universities can be taken out of the close political confines of any kind. The task of preparation of knowledge makers needs to be solved by the people who are actually guiding the *Bildung*—rather than by politicians of limited time horizons in their careers or accountants for whom immediate economizing on current facilities blurs the horizon for future gains.

Aalborg, Denmark

Jaan Valsiner

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Endorsement

Universities are more than ever on the cusp of disruptive and radical changes while struggling to keep their traditional remit from falling entirely into the hands of managers and accountants. This wide-ranging volume addresses the important changes facing higher education from multiple perspectives and divergent cultural viewpoints. A timely and befitting collection of thoughtful papers that should do much to stimulate conversation and debate on the crucial issues facing the university today.

Henderikus Stam, former President, International Society of Theoretical Psychology.

Contents

Part I Introduction: Higher Education at Crossroads: Between Knowledge and Commerce

1 Changing Views of Knowledge and Practice in American Higher Education	3
Nancy Budwig	
2 When the Market Wins Over Research and Higher Education	23
Sylvie Paycha	

Part II Economic Factors in Contemporary Higher Education

3 Organizational Learning Mechanisms and Corporate Entrepreneurial Orientation	31
Anastasiia Lutsenko	
4 The Role of Venture Capital in the National Innovative System	39
Larisa Antoniuk and Anastasiia Zaprovo diuk	
5 The Emerging Technology as an Economic Policy Category	45
Vitalii Gryga	
6 Scientific Cooperation in Basic Research and Higher Education	53
Olha Krasovska, Valentyna Andrushchenko and Irina Velichko	
7 Key Tendencies of Scientific and Technological Development in Ukraine and Its International Dimension (Review of Statistical Indicators)	59
Igor Yegorov	

8	Technological Transformations and Their Implications for Higher Education	67
	Petro Smertenko, O. Dimitriev, Lidia Pochekaïlova and L. Cernyshov	
9	Building the (Higher)Education Stakeholder: The Realities of Economics in Higher Education	77
	Geanina Nae and Virgil Nae	
Part III Universities in the Middle of Globalization		
10	Making Universities Grow: The New Zealand Experience	99
	Robert D. Greenberg	
11	Challenges for Higher Education: The Case of Ukraine	109
	Andriy Stavvtskyy	
12	Global Competitiveness of Universities	115
	Volodymyr Satsyk	
13	Good University and Excellent Professor: Competing Quality Perspectives in Higher Education	123
	Mati Heidmets, Maiki Udam, Kätlin Vanari and Birgit Vilgats	
14	Science and Higher Education in Poland: Changing Rules	141
	Adam Borkowski	
15	New India—Universities in the Middle of Economic Development	151
	Girishwar Misra and Rishabh Kumar Mishra	
16	The Constitutive Crisis of Universities: Born to Be for Few, Challenged to Be for All	175
	Jorge Tarcísio Da Rocha Falcão	
Part IV What Kinds of Knowledge Makers?		
17	Selected Theses on Science	189
	Eugene S. Kryachko	
18	Educating Journalists: Towards Philosophical Sophistication	207
	Eleonora Shestakova	
19	Manufacturing the Industrial Citizen	219
	Joshua W. Clegg, Joseph A. Ostenson and Bradford J. Wiggins	
20	Educating Specialists in the Context of Postmodern Citizenship: Keep Calm and Carry on	233
	Jorge Castro-Tejerina	

Part V Current Collaborations and Future Needs in Knowledge Making

21 Education Without Fear: Going Beyond the *Curriculae* 247
 Sarah Dick, Jennifer Hausen, Lina Jacob Carande, Franziska Sawitzki
 and Marisa Tenbrock

22 Creativity in Higher Education: Apprenticeship as a “Thinking Model” for Bringing Back More Dynamic Teaching and Research in a University Context 263
 Lene Tanggaard

23 Beyond Examinations and Assessment: Pathways to Productivity 279
 Rebekka Mai Eckerdal

24 *Non Vitae Sed Scholae Discimus* 295
 Dominik S. Mihalits and Natalie Rodax

25 Implementation of Curriculum Theory in Formation of Specialists in Higher Education 305
 Kaarel Haav

Part VI General Conclusions: *Quo Vadis*, Higher Education?

26 What Has Happened to Quality? 313
 Thomas Szulevicz and Casper Feilberg

27 Higher Education: From Intellectual Asylum and Fulfilling of Social Orders to Creating Arenas for Scientific Revolutions 327
 Jaan Valsiner

Part I
Introduction: Higher Education
at Crossroads: Between Knowledge
and Commerce

Chapter 1

Changing Views of Knowledge and Practice in American Higher Education



Nancy Budwig

American colleges and universities have undergone tremendous growth and change over the last 100 years, known around the world for excellence in undergraduate education, doctoral training, and research excellence. Back at home, there has been an increasing tension with a growing disconnect between the American Academy and the rest of society. The purpose of a liberal education, the value of doctoral education and research excellence are undervalued by most.

Due to the perception of a gap between what students learn, what researchers produce, and the return on America's investment in higher education, there has been a progressive shift to consider how knowledge is viewed within American higher education. At the undergraduate level, there has been a shift toward more practice-based approaches to learning and attempts have been made to change toward more student-centered curricula. Simultaneously, with research, there has been an increasing focus on issues of relevance and broader impacts of the research being carried out, with a focus on end use.

In this chapter, we examine the changing views of knowledge and practice within the American academy, looking closely at what has been said to be a gap between knowledge and practice. Adopting a longitudinal approach, we first examine changing notions of knowledge and practice in discussions of undergraduate education with a specific focus on what it means to be liberally educated. Next, we shift to examine changing notions of knowledge and practice through an examination of research. Typically, the study of liberal education and the research university are distinct. In this chapter, we will not only review changing views of

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knowledge and practice in each of these two areas, but also raise the question of whether trends in each area are related and whether these can be tied to new theory and research in the area of the developmental and learning sciences during the same time period. It will be argued that both the conceptual frameworks and strategies guiding the organization of American higher education have yet to fully draw upon emerging perspectives from the development and learning sciences.

Liberal Education and the Turn to Practice

When we ask about the relationship of a liberal education to citizenship, we are asking a question with a long history in the Western philosophical tradition. We are drawing on Socrates' concept of 'the examined life,' on Aristotle's notions of reflective citizenship, and above all on Greek and Roman Stoic notions of an education that is 'liberal' in that it liberates the mind from bondage of habit and custom, producing people who can function with sensitivity and alertness as citizens of the whole world.

— Nussbaum (1998, p. 8)

Since the origins of liberal education in the USA, ongoing discussion of what exactly a liberal education is has focused on what (if anything) it affords students. At the same time, a parallel discussion has been taking place that focuses on liberal education and its value as a public good. There has been an outcry suggesting that a liberal education is disconnected from everyday needs of all, but the elite for whom job security is believed to be guaranteed. Too many do not fully understand whether and how a liberal education prepares students to live lives of meaning and purpose. Not only has there been concern for rising costs, but also questions of relevance especially for students moving to work positions outside the ivory tower. In this section, we turn to consider liberal education and issues of relevance.

What Is Meant (and Is Not Meant) by the Phrase Liberal Education?

What is meant by liberal education has not been well understood, either in the public sphere or in higher education more specifically. One common misunderstanding and source of confusion is the distinction between liberal arts and liberal education. As Carol Geary Schneider (past President of the Association of American Colleges and Universities) has argued:

A quest for the key to America's historic world leadership in higher education brings interested visitors into a notably confusing aspect of postsecondary learning: the contested standing of liberal or liberal arts education. Even for Americans, contemporary perspectives on this important educational tradition are conflicted and often contradictory." Schneider (2008, p. 30)

Schneider goes on to provide clarification of several terms, most relevant here are the definitions she provides for the terms “liberal education,” “liberal arts,” and “liberal arts college”¹:

Liberal Education: A philosophy of education that empowers individuals, liberates the mind, cultivates intellectual judgment, and fosters ethical and social responsibility.

Liberal Arts: Specific disciplines (humanities, arts, social sciences, and sciences).

Liberal Arts College: A particular type of institution—often small, often residential—that facilitates close interaction between faculty and students, and whose curriculum is grounded in the liberal arts disciplines.

Much of the tension around liberal education has roots in one of the three confusions:

1. The assumption that liberal education is reserved for the elite who attend selective liberal arts colleges.
2. The assumption that liberal education specifies particular areas of study (e.g., the humanities as opposed to STEM fields) and the related assumption that these fields are less practical or do not prepare students for entry into the workforce.
3. The assumption that liberal education is rooted in a liberal political stance (e.g., for Democrats rather than Republicans).

While we will not discuss all of these issues, it is important to be clear that in this chapter when referring to liberal education I am focusing on a particular view of undergraduate education. Here, liberal education is viewed as *an approach*, one that can be adopted at any college and university (small or large, private or public), and an approach to education that is not inherently linked to one or another political viewpoint. With this clarified, we can turn to a historical overview of American liberal education and its relation to practice.²

Liberal Education 1.0

For as long as the concept of a liberal education has existed in the United States, so too have extended conversations about its purpose. Early on there was a strong belief that education was strongly linked to the character of society (see Dewey 1916, 1933). In terms of its role in students’ intellectual development, liberal education has been associated with a commitment for students to have both breadth and depth of knowledge. The influential Yale Report of 1928/1929 provides a nice

¹A complete list that Schneider provides in the 2008 article can be found here: <https://www.aacu.org/leap/what-is-a-liberal-education>.

²Our review makes the trajectory from liberal education 1.0 to liberal education 2.0 seem more linear than it actually is. See Harkavy (2015) for a discussion of some of the nuance to this debate, as well as an exploration of the discussion of practice back to Jefferson’s time.

summary of a theme that has been the source of much debate throughout American history—do students need a common curriculum similar for all students or a college curriculum that is more loosely structured. Why Yale faculty would propose a common curriculum links directly to their view of the purpose of a liberal education. The overall aim was to prepare undergraduates for life rather than a particular vocation:

Our object is not to teach that which is peculiar to any one of the professions; but to lay the foundation which is common to them all.

If the nineteenth century left colleges and universities to question the need for a classical education and whether a core curriculum versus a more elective curriculum was optimal, the twentieth century began to focus more on the distinction between the division of “the major” and “general education.” During this period, questions about the diversity of modes of thought introduced by distinct disciplines as well as discussions about the need for all students to acquire a common set of skills and capacities and what those might be has been debated on most college and university campuses.

What is remarkable is that the notion of general education is alive on most campuses despite increasing fragmentation of the disciplines today (see Boyer 1987). What core kinds of knowledge or intellectual skills and capacities should be acquired have varied across time and across institutions, but the majority of baccalaureate degrees in the USA place emphasis on both the acquisition of core knowledge and intellectual skills and capacities in addition to a student’s completion of a specific major. While the particulars have been debated, the statement below, adopted just before the beginning of the twentieth century, nicely summarizes the breadth of knowledge and skills that a liberally educated student was said to hold:

Liberal education requires that we understand the foundations of knowledge and inquiry about nature, culture and society; that we master core skills of perception, analysis, and expression; that we cultivate a respect for truth; that we recognize the importance of historical and cultural context; and that we explore connections among formal learning, citizenship, and service to our communities. *Adopted by the Board of Directors of the Association of American Colleges & Universities, October 1998*

More specifically, foundational knowledge across a range of disciplinary areas (arts and sciences) as well as intellectual skills (perception, analysis, and communication) is at the heart of what learning is about. It is not that the ability to put these skills to use was not relevant, but rather that the ability to integrate and apply knowledge was taken for granted.

As discussions of the purpose of breadth requirements have intensified across the twentieth century, campuses simultaneously began to give increased attention to the importance of specialization or depth of expertise any student was learning. During this period, discussions of American liberal education gained razor-sharp focus on

the notion of the major, and students and their families increasingly have seen this as the core element of an undergraduate degree. With this focus on the major came the realization that a single writing or formal reasoning course was an insufficient way to introduce writing, reasoning or other basic skills. Writing across the curriculum and other campus initiatives were implemented to assure students had the habits of mind associated not only at a general level, but also tied to their majors. Across the twentieth century as the disciplines became more strongly tied into the organizational fabric of universities and colleges, they came to play an increasing role in the nature of undergraduate education. Taken together, these various developments resulted in an increasing differentiation between two central strands of a liberal education with minimal connection between the general education program and the major. For many, this became a problem in urgent need of fixing (see Boyer 1987; Deblanco 2012).

One might ask what all of this has to do with liberal education and notions of practice. The answer is everything. Focus on the separate curricular structures (the major and general education programs) as well as de-emphasizing consideration of a holistic view of the student became common in the rapid explosion of disciplines and co-curricular opportunities on US campuses in support of liberal education. As focus has drilled down to individual programming and disciplines, there has been equal concern expressed about the loss of connection with campuses as anchor institutions in their communities. Noted was a general decline in focus on the connection between education and civic life (whether in terms of organizational connections or with regard to student learning). Harkavy (2015) argues that central to student liberal learning and a more holistic approach to liberal education is a return to the views of Boyer, Dewey, Franklin, and others who see integration with one's community as central to American liberal education.

As we entered the twenty-first century and as liberal education in America approached its centennial, there were numerous indicators suggesting the need for re-examination and clarification about what a liberal education means in America. Early on, little thought was given to specifically American ways of introducing liberal education into the American higher education scene, and it was largely imported as is from Europe. Over the twentieth century, the development of and importance granted to department cultures and the disciplines led to increasing barriers that hindered the ability to provide a holistic education to American undergraduates. As we will note, around the same time, on many campuses, research became a primary engine of prestige and thus student learning not only became increasingly disconnected from research, but also from civic life. All of this left many feeling that liberal education had become detached from its larger purposes of preparing individuals for citizenship and work.

Liberal Education 2.0: Practice, Application, and Real-World Experience

While for most of the twentieth century many assumed that the goals of a liberal education were quite distinct from an education that helps students become employable, in recent years, this view has changed. As Schneider (2009, p. 2) notes:

In the twentieth century, proponents of liberal learning drew a sharp dividing line between “practical” or career studies and the “true liberal arts. Today, we contend, we need to erase that distinction...

In this section, we explore some of the new ways of thinking about liberal learning that infuse notions of practice into conceptualizations of liberal education. Why this turn is taking place appears to stem from multiple reasons including new theories of learning and economic issues leaving college students unprepared and often without jobs. Some of the shift to more engaged learning pedagogies has been introduced within the context of typical college learning contexts such as within the classroom, while others have focused on the application of classroom learning to real-world problems, typically beyond the university campus.

One of the most well-known movements has been the focus on what is called active learning or engaged learning where students, typically in traditional classroom settings, are encouraged to take on more active roles. One such effort has been labeled the “flipped classroom:” where students watch lectures at their own pace using technological assistance and class time involves activity-based learning. Carl Wieman has become a lead advocate for more active pedagogies, spending significant time learning about why learning and developmental scientists believe more active learning strategies enhance student learning. It is becoming increasingly common for faculty to go well beyond the lecture mode, using an array of strategies to keep students focused on large-scaled lectures and seminars.³

Increasing focus though also has been given to student learning that takes place outside the traditional classroom. Two common reasons given for this shift are that (a) students become more motivated when learning takes place in contexts of use, and (b) these experiences provide the kind of “real-world” application of knowledge and skills that will guide their success after college graduation. Experiential learning is viewed as a process whereby knowledge and skills acquired in the context of formal teaching get applied in concrete activities. A good summary of this perspective is described by Kolb (1984) who argues forcefully that experience is the driver of learning and development and several colleges and universities have picked up on this work.⁴

³See <http://www.npr.org/sections/ed/2016/04/14/465729968/a-nobel-laureates-education-plea-revolutionize-teaching> for a summary of this work.

⁴See link for good summary of how one university explains experiential learning <https://facultyinnovate.utexas.edu/teaching/strategies/overview/experiential-learning>.

Eyler, one of the deepest thinkers on experiential learning in the context of undergraduate education notes that too often we get lost in “the doing” and forget about the key role that integrative learning and reflection play. She notes:

...students need the capacity to perceive and address ill-structured problems, tolerate ambiguity, make warranted judgments, and act while continuously seeking and refining further information. Neither tolerance for ambiguity nor critical thinking is simply a function of information, skill, and social ability or even of repeated practice, but rather both require intellectual capabilities that are not now generally attained before college graduation. (Eyler 2009, p. 27)

Eyler goes on to point out that the quality of the experience, as well as the related intellectual work that goes on during the experience, is central to deep learning. This requires explicit training in helping students learn about the ways learning takes place in authentic contexts as well as in how to optimize the necessary reflection required for significant learning to take place. As Eyler (2009) and others such as Hodge et al. (2009) have argued, central here is that students not only acquire habits of mind, but also the identities of knowers or the self-authorship required to evaluate knowledge autonomously. As Hodge et al. (2009, p. 18) go on to explain “The promotion of self-authorship entails a fundamental shift in how we imagine and structure the whole undergraduate experience.”⁵

It has becoming increasingly common to use more active pedagogies and incorporate experiences for undergraduate students that mimic what has been referred to as learning in “real-world settings” (e.g., undergraduate research, internships, service learning). No group has invested more thought into building sustained intentional leadership and resources to liberal learning and authentic application than the Association of American Colleges and Universities with their work on the LEAP Challenge. The LEAP Challenge is designed flexibly to be a framework utilized by a variety of kinds of institutions (community colleges, liberal arts colleges, state institutions, private and public research universities) embodying a blended model of liberal education and vocational training. The heart of the framework, which focuses on integrative liberal learning, is an attempt to build developmental pathways that provide opportunities for students to take on increasing agency in integrating and applying their work to complex or “un-scripted” problems. Significant here is the attempt to outline potential ways a liberal education can add up to be greater than the sum of a series of individual course.⁶

⁵The 2009 Clark/AAC&U conference on Liberal Education and Effective Practice not only led to many papers cited here, but also to a new curricular framework for liberal learning based on revised notions of effective practice. A description of the new curricular framework, its developmental science underpinnings, and building faculty capacity for this work can be found in Budwig (2013), Budwig et al. (2015).

⁶Further information and many resources stemming from AAC&U’s LEAP Challenge can be found here: <https://www.aacu.org/leap-challenge>; also see Budwig and Jessen-Marshall (2018) for illustrations of signature and capstone work at several institutions.

Re-centering: Liberal Education and Practice

Thus far, we have drawn a distinction between the approach to liberal education during much of the twentieth and twenty-first centuries. The twentieth-century views focused on breadth of knowledge about the arts and sciences, as well as intellectual skills typically associated with a liberal education such as critical thinking, analysis, information literacy. While holding on to this view, a twenty-first century also witnessed a turn toward approaches to liberal education that weave in notions of practice. Two caveats are in order. First, the turn toward practice should be viewed as one of degree of focus. From the get-go, one can find views that link liberal education and practice, for instance, in the writings of Jefferson (see Harkavy 2015 for an excellent review of this work). Second, much of the work currently being done to engage students through a “learn through doing approach” does not fully draw on research from developmental and learning science theory and research. While some features of active learning pedagogy are referred to in revised notions of liberal learning, for the most part this work has been devoid of deep connection with new theory and research in the area of human learning and development and driven more by a belief that engaged learning is a preferred pedagogy as the range of students leaving high schools for college increases.

In short, although by the start of the twenty-first century one finds some changes in how liberal education is viewed that move in the direction of modern day research on how people learn, this movement actually has little connection to research in this area. This leads to the question of why. One answer which is worth considering further is put forward by Deblanco (2012). He notes that by the beginning of the twentieth century the commitment to character formation and the habits of mind that foster creativity began to be in sharp tension with a commitment to professionalization in higher education. As he points out, other changes have taken place within the academy that have influenced focus on liberal education, for instance—at the beginning of the twentieth century, colleges were becoming universities. He argues that as universities began to build up research, a holistic approach to the ungraduated community took a back seat to expertise, and schools once exclusively devoted to undergraduate learning sought prestige through the development of graduate and professional schools. It is not that individuals lost interest in liberal education, but as Tritelli (2007) notes, the structures in place as well as the incentives provided have created structural impediments for achieving the goals of a twenty-first-century liberal education. We turn now to consider the emergence of research in the university, shifts in how practice is viewed over time, and whether there are connections between the turn toward practice found in liberal learning and that discussed in the context of research.

Framing American Research: The Turn Toward Practice

Currently, there is little dispute that knowledge production and dissemination are central to the economic competitiveness and the social welfare of nations. At the same time, others fail to understand what purpose research serves and question the large investment being made with federal and state dollars. Current dialogue across difference has also raised issues of knowledge and practice, questioning what the appropriate balance is between basic research and application. We turn now to discuss three critical phases in American history that have shaped understanding of the changing views on the relation between knowledge and practice.

The Emergence of the American Research University

It is remarkable that as recently as the middle part of the 1800s, American universities gave little attention to research and had minimal infrastructure to support it. By the end of the 1800s, as increasing numbers of scientists headed to German to study with leading scholars, professors brought back with them new ideas about the goals of science and new models for how to organize universities to support this work. At a time when universities primarily were organized around a vision of science that was instrumental in nature, the idea that American universities might adopt a framework that emphasized science for purposes of understanding took off like wildfire among a group of elite entrepreneurs. In the last few decades of the nineteenth century, several individuals instigated ambitious plans that called for a new kind of university—one that was organized around the goals of research and graduate study. The individual stories varied in some specifics, but it has been well noted that there was a wave of change across American higher education at this time. More than a dozen American research universities became dedicated to a firm grounding in models of scientific autonomy that remains largely unchanged today (see Crow and Tucker 2001; Menand et al. 2017; Stokes 1997; Veysey 1965).

This entrepreneurial period characterized by several new university leaders such as Gilman at Hopkins, G. Stanley Hall at Clark, and others forming private universities borrowed in part ideas from Europe, especially Germany. This led to numerous changes in American higher education. For instance, the interest in basic research at these institutions led to the formation of programs uniquely designed to train a new generation of scientists and resulted in the formation of graduate education in the USA that was not grounded in professional disciplines such as medicine or law. This transition led to a move away from university courses providing general education and led to the buildup over time of several independent disciplines. It also led to the formation of extensive laboratories in the sciences modeled after the German laboratories. Funding primarily was provided by

individual universities or philanthropists, and consequently, there was no formal organization beyond the level of individual universities to foster a national platform of research. The dramatic developments witnessed across the country by the early 1900s had a tremendous impact on the American higher education system, especially with regard to emphasizing a less utilitarian view of science and a new design of knowledge transmission, such as the introduction of the seminar to higher education in the USA.

The emergence of the American University has been viewed as a somewhat sudden and unplanned sequence of events that has had a profound impact on current American university life for professors, students, and academic administrative leaders (see Veysey 1965). It is remarkable that so many changes could take place with so little explicit reflection in such a short span of time, especially given what is known about the pace of organizational change in American universities today. The model of the German research university played a significant role in the thinking of the entrepreneurial leaders of the time, but the Americans responsible for building up the new research universities included their own nuances that were indicative of differences that would impact the structure of higher education in America and has led to its global success. Two major differences will be discussed here.

One significant difference between the structure of higher education in Germany and America had to do with the development in America of the structure that has come to be known as the department. In Germany, areas of study at the university level were more likely to be organized around a single professor who had the energy and authority to determine the direction of scientific focus of that area of study. In contrast, the American research universities developed departments which were areas of specialization of knowledge that brought along the formation of increasingly specific disciplines (Rudolph 1962; Veysey 1965). Departments came to be a structural unit that existed between individual professors and their particular areas of research interests and larger university administration (see Stokes 1997). As departments formed so too did disciplinary societies, and both of these new structures led to increasing specialization of areas of inquiry that fostered distinct ideas about methodology and graduate training. The egalitarian nature of departments and disciplines not only has led to an increased role of peer evaluation, but also (though not through any known planning) has provided a mechanism for new scholars to bring innovative ideas to the frontiers of knowledge construction in ways that were not necessarily fostered in European universities around the turn of the century. In short, the creation of departments created space at the time for innovation.

A second important difference between German and American research universities had to do with the organization of the connection between science and technology. In Germany, as Stokes (1997) points out, alongside the buildup of research universities to support pure science were a set of technical schools that supported training and research in the applied disciplines of technological advance. Students were placed on one path or the other at an early age, and there was little

connection between basic and applied science. In contrast, America has had one integrated university system with what has been known as the pure and applied sciences existing side by side. In many cases, both pure science and the more technical fields existed within one and the same university in America. It appears that whether in the university setting or in separate research laboratories in the USA, American scientists have been able to hold together views of basic science (understanding) and applied science (use) in ways that were not common in Germany (see Stokes 1997). It has been argued that the progressive movement influenced research universities such as University of Chicago and others to not draw too firm a separation between basic and applied research. Overall, though basic science was introduced around the turn of the century, it is clear that issues of use have had a significant role to play in American conceptions of research in the modern era. Clearly, harnessing scientific knowledge significantly impacted American political strategy during the years surrounding World War II.

Formulating a National Approach to Research: The Post World War II Years

One of the most significant moments in the development of a framework for American research came just after World War II. Bush's (1945) *Science: The Endless Frontier* report clearly played a significant role in shaping a change in course in the conceptual framework of knowledge and practice and the report influenced the financial affiliation between research universities and governmental agencies. To most, this represented an abrupt end to a period during the war years when basic science played a significant role in warfare. Prior to the war, significant reluctance on the part of basic scientists had been expressed with regard to drawing upon federal support due to a fear that such a move would lead to reduced scientific autonomy. During the war years, the Office of Scientific Research and Development, run by Bush, led to significant funding of basic science research that fed into the application of nuclear research to warfare. The report outlined an approach to science that called for a centralized governmental approach that nevertheless protected scientific research from political accountability.

While not the first time such a proposal had been made in America, the report was well timed and resulted in both the formation of the National Science Foundation (NSF) and a tenfold increase in national support for research funding between 1940 and 1960. It is important to recognize that although Bush's *Science: The Endless Frontier* led to a national steering of research; for the most part, there was little change to the organizational structure of American Universities. As some have noted, Bush's reframing was primarily rhetorical, and yet for quite a long while the consequence the conceptualization of the relationship between knowledge and practice has been at best linear (see Crow 2008; Stokes 1997).

New Language and New Frameworks: Twenty-First Century Views of Research and Practice

By the beginning of the turn to the twenty-first century, the compact forged by Vannevar Bush between science and government has again come into question. Across the humanities, sciences, and social sciences, issues of the connection between research and practice have surfaced with new energy.

In the sciences, Stokes (1997) introduced the words “use-inspired” research into the discussion in his book *Pasteur's Quadrant* where he argued that the linear distinction between applied and basic research was too simplistic. For Stokes, use-inspired research is similar to basic research in that it focuses on fundamental understanding, and at the same time, like applied research, focuses on considerations of use. Other labels in the social sciences have surfaced including usable knowledge and publically engaged scholarship, and one finds increasing interest and debate into issues of public humanities surfacing as well.

In recent years, funders have begun to consider contexts of use such as the National Science Foundation's interest in “broader impacts” formalized as one of two criterion for proposals under review (the other being intellectual merit) in 1997 for all NSF proposals. Similarly, in recent years, the Spencer Foundation has problematized the construct of practice in considering not just how fundamental research might be used, but also key questions dealing with context such as why and how and for whom findings hold as part of the foundations interest in research–practice partnerships. And the National Institute of Health has reimaged its work to accelerate the connection between what we know and therapeutic development pipeline, examining the pipeline for bottlenecks and the like, in its National Center for Advancing Translational Sciences. The National Endowment for the Humanities has invested in an agency-wide initiative, *The Common Good: The Humanities in the Public Square*, which aims to connect the study of the humanities to the current conditions of national life, especially issues that require more than one form of understanding and representing the humanities.

While conceptually each of the terms used above involves slightly different frames or metaphors on the connection between knowledge and practice, what holds these various examples together is reference to a subtle but growing shift away from basic and fundamental research to research that more closely connects (albeit in different ways) with public issues and problem solving. One of the most prolific writers on this issue is Crow (2008, p. 16) who has argued that the increasing specialization of knowledge located in the disciplines has led to institutional inertia in American universities:

In our effort to produce abstract knowledge without regard for its impact, many universities have lost sight of the fact that they are also institutions with the capacity to create products and processes and ideas with entrepreneurial potential.... We must instead design some of our institutions to allow us to be competitive and address the challenges that will confront global society in the decades ahead. Our universities must recover an entrepreneurial edge if they are to be relevant and useful on a global scale.

As was the case just after World War II, the American research agenda and its framing have less to do with new intellectual and research trends related to knowledge and practice and instead framed in light of economic development and reasons for why the great American research university must be protected (see Cole 2009).⁷

Is There a Gap Between Knowledge and Practice in Higher Education

The Gap Metaphor

The first two sections of this chapter have argued that both within the areas of student learning and research in higher education, the conceptual framing of student learning and research has highlighted a gap between a view of abstract knowledge and issues of practice. In this section, we will review the conceptual framework presented in the student learning and research literature, examine similarities and differences in these frameworks, and consider evidence for whether common underlying issues have led to the emergence of the view of a gap.

The gap between knowledge and practice in both liberal learning and research areas of higher education

Our review of the modern day conceptual framework for liberal learning has increasingly included discussions of the role of application and practice. The image most commonly used is one of a student acquiring knowledge and skills and then traveling out beyond the university to apply what they know in the context of “real-world” or complex problems. On such a view, practice is viewed as central to liberal learning. The Association of American Colleges and Universities (AAC&U) include this as part of their discussion of the Essential Learning Outcomes (see College Learning for the New Global Century 2007). Learning Outcome 4 is called “Integrative and Applied Learning” and includes “synthesis and advanced accomplishment across general and specialized studies, demonstrated through the application of knowledge, skills, and responsibilities to new settings and complex problems.”

The notion of application of prior learned knowledge is central throughout discussions of engaged and experiential learning as well. Some work assumes that

⁷While not discussed here, it is intriguing to note that discussions of the connection between knowledge and practice are linked to the scholarly literature in the European Union. See for instance the work of Helga Nowotny President of the European Research Council (ERC), which was launched in 2007 by the European Union, with the aim to stimulate scientific excellence in Europe by encouraging competition for funding between the very best, creative researchers of any nationality and age from anywhere in the world. Nowotny is a leading scholar on the relationship between knowledge and practice, including her 2001 publication with Scout and Gibbons.

fundamental knowledge is taught in lecture settings and that the experiences outside of the formal classroom help students learn to apply such knowledge in specific contexts, often ones that are messier than the settings where knowledge and skills are originally taught. Other approaches assume a tighter link between acquiring fundamental knowledge and application, where high impact practices are woven more explicitly into classroom experiences.

We have also noted a similar gap metaphor in discussions of research. Compared to the higher education literature on learning, there is a more explicit discussion related to the nature of the gap with authors such as Stokes (1997) specifically discussing whether and how research is inspired by fundamental inquiry and/or considerations of use. The underlying theme in much of this work is that consideration of use will be central to secure a renewed compact between science and government, especially funding. As Shove and Rip (2000) have argued, there is an important distinction in this body of work between those who argue for relevance through the invocation of potential value and an approach that integrates end users into the specific research framework. In the end, Shove and Rip note that more important than relevance of work is an explicit discussion of the process of use.

Are the conceptual frameworks regarding knowledge and practice in various domains of higher education cut from the same cloth?

The question can be raised whether the interest in practice (and in particular the need to close the gap between knowledge and practice) that is seen in discussions of teaching and learning, as well as in the area of research are driven by similar conceptual frameworks in higher education. Is there evidence that changes in conceptual frameworks pertaining to liberal education are in any way related to the changes in frameworks related to research? I will argue that both stem from a dominant conceptual framework, namely a belief that knowledge is decontextualized, abstract, and located within the head of individuals. While that metaphor seems to still guide thinking in higher education circles discussing student learning, I will show that the discussions of research have been slightly more nuanced and draw more centrally from alternative frameworks introduced in the learning and developmental sciences and the social sciences more broadly.

The conceptualization that learning travels from the classroom on out into the world makes sense within a larger framework that assumes the learner stores knowledge in the mind (or metaphorically in a backpack) and draws on that resource later on when out in the world. Similarly, many colleges and universities include in their educational mission something about preparing students to understand and contribute to a complex and interconnected world (see Newman et al. 2015; Felten et al. 2016). Nevertheless, research shows that students actually are not as successful as desired when it comes to integrating and transferring prior learning (Nowacek 2011, Wardle 2007). Transfer does not happen magically. A closer examination of ongoing work in this area shows a range of approaches for improving this outcome. Those more closely affiliated with the science of engaged learning (see for instance Eyler 2009) suggest the importance for reflection playing a central role in connecting knowledge and practice or other cognitive and social

processes. This contrasts with schools that refer generally to the process of transferring knowledge from classroom learning to practice (see Felten et al. 2016 for discussion). Even in attempts by instructors and universities aiming to do a better job at helping students synthesize and apply the knowledge they are acquiring along their college journey, the framework is built off a conceptualization involving a gap between knowledge and skills that individuals “have” and the ability to put these skills to use in practice.

Gap metaphors also can be found in the discussion of research though the discussion is more nuanced. First, there has been ample discussion in the literature over the last few decades, and researchers have been encouraged and trained to consider the issue of relevance (albeit in different ways) both for obtaining funding (for instance, in discussing broader impacts) or in publication (in discussing relevance). At the same time, there has been a more nuanced discussion of what we mean by relevance—is it necessary or sufficient to mention potential users as a form of justification for research? Shove and Rip (2000) have spoken to the dangers of using mythic users and have highlighted the importance of digging deeper into what is meant by the process of use even if it detracts from the imaginary or “fairy-tale” like conceptualization of user. They also point out the dangers of limiting our discussions of use to instrumental conceptualizations alone. Unpacking the conceptualization of user communities typically involves a gap between researcher and user and raises again issues of abstract versus contextualized knowledge discussed above in the section on learning.

An alternative view of practice and its implications for organizational structures of higher education

Situated knowledge and practice: Conceptualizations based on a gap metaphor tend to contrast abstract knowing with concrete conditions of use. But we know from the work of Dewey (1938) and Polanyi (1966) that this does not take into account what has been called tacit versus explicit knowledge. Furthermore, the gap metaphor provides a conceptual framework where knowledge and practice are entities. Alternatives that view knowledge and practice from a process viewpoint also exist. In particular, in recent decades within the fields of the developmental and learning sciences, there has been a shift away from viewing knowledge as decontextualized and individual-centered, and as something transferred from experts to novices, toward a view of knowledge and skills as being deeply embedded in human practices and thus relation-centered, rather than distinct and located in the mind. There are various versions of this perspective (see Lave and Wenger 1991; Rogoff and Lave 1984; Valsiner and van der Veer 2000; Vygotsky 1978; Wertsch 1997), but according to all of these sociocultural theories, knowledge and its development are always connected to human activity. Professionals build up knowledge in practice, acquiring the habits of mind and repertoires of practice that embody what it means to know in their profession. This view emphasizes the tight connection between knowing, experiencing, and reflecting.

If knowledge is conceived of as contextual, embodied, and built up in and through activities, does the gap go away? As noted by Wortham (2010) the answer

according to this growing body of work is not exactly; rather, this change in understanding simply changes the focus. The gap now becomes one of learning to navigate one ‘knowledge-in-practice’ activity to another, rather than learning to apply preformed knowledge to new contexts. A situated view of knowledge and practice revises our thinking about how to frame discussions of student learning, as well as the production and dissemination of research in new ways.

Implications for the organization of higher education: How does a situated view of knowledge and practice impact the organization of higher education? For both areas (student learning and research), from a sociocultural perspective, knowledge is viewed as part of a broader social activity where individuals gradually adopt the practices, beliefs, and values of specific expert communities. In addition to adopting ways of knowing, individuals acquire membership and construct an identity in such a knowledge community. This process takes time—novices (whether students or new researchers) begin by watching experts from a peripheral position in the community and gradually move to full participation in that community. Such a view would imply a profoundly different way of organizing higher education for learning and research. What students and researchers need are what has been referred to as rich “communities of practice” (Lave and Wenger 1991). For example, in apprenticeships, an individual would join an established community of practice, initially spending time observing or performing very basic tasks studying how the group works and what the role of participation entails before taking on more complex work. What students then need from this perspective is not to unpack already formulated knowledge and apply it to new contexts, but in and through observation and participation in a community of practice students are provided an opportunity to build up knowledge of what it means to do/be that sort of knowledge producer. Similarly, this more dynamic or process view of the relation of knowledge and practice has consequences for the organization of research. The sociocultural perspective can and does often study a team of disciplinary researchers who build up knowledge in and through distributed work that takes place in spaces such as laboratories. Nevertheless, it also allows for rich constellations of researchers across a set of disciplines with distinct areas of expertise and practices to come together, as well as researchers and professionals working side by side building up new knowledge.

All of this suggests a much more nuanced view of the connection of knowledge and practice. Our everyday folk theories highlight the idea that transfer from context to context is straightforward. But studies of knowledge building in authentic contexts suggest that experience alone does not contribute to knowledge building and the formation of expertise. Learners must draw upon a significant knowledge base and familiarity with the tools and discourse various disciplines use to engage in inquiry. Shift here focuses from learning about to learning to participate. Participation in a community of practice gives rise to a shared repertoire of resources such as routines, artifacts, and a common vocabulary that members develop (Wenger 1998). Such a view suggests the importance of considering the social nature of participation in engaged learning and knowledge building communities when organizing how students learn and how research is organized in university contexts.

Concluding Comments

In this chapter, we have explored the increasing role of practice in our conceptualization of knowledge and its development, both in our conceptions of student learning and university research within institutions of higher education. One central question raised here has been whether the trend within teaching and learning and that within research in the USA has been cut from the same cloth. The answer provided here is that it is likely that the growing turn toward practice is part of a more gradual transition away from viewing knowledge as decontextualized toward views that embrace more relational and situated conceptual frameworks. Nevertheless, the argument has been made that we have yet to fully realize the richness of what the learning and developmental sciences have to say about the relation between knowledge and practice. The shift to date has been modest and the path not straightforward. In particular, we have noted the need to deepen and align our conceptual frameworks about knowledge and practice with those connected with recent theory and research in the learning and developmental sciences. Second, we have highlighted that as our views of knowledge are revised toward more situated and relational views, organizational structures of higher education will need to be further thought.

This is not the first time such a conclusion was reached. In 1970, a group of scholars including scholars of knowledge and development came together in Paris to discuss problems of the university which resulted in a volume (Apostel et al. 1972). It is here that Jean Piaget coined the terms interdisciplinarity, transdisciplinarity, and multi-disciplinarity. In the preface to the volume that came out after the meeting, Gass (1972, p. 10), who at the time was the director of the Center for Educational Research and Innovation, sets up the problem like this:

The guiding principle is not the need to demolish the disciplines, but to teach them in the context of their dynamic relationships with other disciplines and with the problems of society. This is justified if only because of the increasing social costs of the over-specialization of knowledge. Indeed, it may be argued that one of the reasons for the tarnished image of science is public reaction to its power to produce specialized applications of knowledge, without a corresponding development of the synthesizing framework which can illuminate their side effects and long-term implications.

One idea at the 1970 conference was to better understand the epistemology of knowledge, noting this might lead to better structuring of the university. Nearly fifty years later, in the US context, a very similar problem continues to exist. Despite the fact that businesses and other organizations have changed to match more relational views of knowledge and practice (see Gergen 2009; Michel and Wortham 2009), higher education leaders have thought little about this. Our conceptual frameworks for leading and organizing universities still depend heavily on outdated conceptualizations of individual-centered institutions, rather than organization-centered structures. Rather than mitigating uncertainty, many organizations outside of higher education have adopted a framework that emphasizes the ability to learn from

contexts of ambiguity. Furthermore, rather than viewing leadership as associated with a set of top-down processes, very few institutions have considered new relationship-based styles of collaborative leadership within higher education circles (see for instance the notion of guided emergence in Budwig 2013). Our theories of knowledge and practice are not only tied to our understanding of student learning and research, but also simultaneously embedded within conceptual frameworks of leadership and how we structure universities. While we have identified changing notions of knowledge and practice in both student learning and research, work on leadership models and organizational structures have yet to be well aligned and will take fresh thinking. Tritelli (2007, 4), the outgoing editor of *Liberal Education*, had some thought-provoking comments on one reason why when he writes:

Frustration over the functional disconnect between the vertical organization of colleges and universities and the horizontal forces driving successful educational innovation is expressed through what Richard Keeling, Ric Underhile, and Andrew Wall call “the frequent and increasingly predictable accusation that institutions of higher education operate in ‘silos’.”

Tritelli goes on to claim that as useful as silos are as a metaphor, they may make difficult the uncovering of new solutions which he claims needs not only to involve organizational models but “the roles and behaviors of those who inhabit them.”

Three things are necessary to move forward on this complex issue. First, as was noted in the 1970 conference on problems of teaching and research, we need a deeper understanding of what we mean by knowledge to enhance student learning and research. Second, we need to assure that our universities and colleges are organized in optimal ways around what this understanding. As Tritelli (2007) points out, our framing of the problem, and in particular the language we use to represent that understanding, is key. It is not so much that we need new structures per se, but rather our new conceptual models of knowledge and practice highlight important changes to the relations between current structures. Such a review, well beyond the scope of this paper, will likely suggest that concerns that teaching and research are at odds with one another may actually not be so when viewed from a relation-centered viewpoint. Such a shift may also lead us to see new ways our higher education institutions can better connect to one another and the communities of which they are a part.

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Chapter 2

When the Market Wins Over Research and Higher Education



Sylvie Paycha

„*The market swallows up science*“ (*Die Wirtschaft schluckt die Wissenschaft...*) is the title of an article by Ralf Leonhard in the German National daily newspaper “Tageszeitung” of 8 January 2014 in which the author reports on the integration of the Austrian Ministry for Science as part of the Ministry for Economic Affairs. On the web page of “Science Management online” (*Wissenschaftmanagement online*), one can read the following introductory words by André Lottmann from the Institute for Research Information and Quality Assessment (Institut für Forschungsinformation und Qualitätssicherung) (Free translation, see Footnote¹)

“With more autonomy, deregulation, worldwide competitive organisation and a distribution of funds subjected to achievements, the scientific system has considerably gained in autonomy. But are higher education and research institutions by now actually free from state control?”

On the EU web page, Horizon 2020, one of the largest EU funded Research and Innovation Programme over the coming 7 years (2014–2020), advertises its main goal as follows:

The EU Framework Programme for Research and Innovation will be complemented by further measures to complete and further develop the European Research Area. These measures will aim at breaking down barriers to create a genuine single market for knowledge, research and innovation.

These quotes which speak for a growing marketing trend in the world of research and higher education lead to some questions I want to raise here:

¹Mit einem Mehr an Autonomie, Deregulierung, wettbewerblicher Organisation und leistungsorientierter Mittelverteilung hat die Selbststeuerung im Wissenschaftssystem in den letzten Jahren nochmals deutlich an Fahrt gewonnen. Aber sind Hochschulen und Forschungseinrichtungen inzwischen wirklich völlig losgelöst von staatlichen Direktiven?

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- (1) What do higher education and research institutions gain in being freed from state control?
- (2) Can higher education and research institutions be evaluated by means of marketing parameters?
- (3) Is the short-term timescale of markets compatible with the long-term timescale of research and education over generations?
- (4) In the long run, is research predictable enough to be evaluated and funded according to the short-term results it is expected to produce?

Since mathematics is the topic I am most familiar with, let me quote two mathematicians. The first one is taken from a scientific article by Eugene Wigner (1902–1995) published in 1960. I have added the adjective “*unpredictable*” to the title for reasons that will become clear from the content of the quote:

The Unreasonable and Unpredictable Effectiveness of Mathematics in the Natural Sciences

The first point [Eugene Wigner raises] is that mathematical concepts turn up in entirely unexpected connections [hence the adjective “unpredictable” I added]. Moreover, they often permit an unexpectedly close and accurate description of the phenomena in these connections. Secondly, just because of this circumstance, and because we do not understand the reasons of their usefulness, we cannot know whether a theory formulated in terms of mathematical concepts is uniquely **appropriate**. We are in a position similar to that of a man who was provided with a bunch of keys and who, having to open several doors in succession, always hit on the right key on the first or second trial. He became sceptical concerning the uniqueness of the coordination between keys and doors.

The second quote is taken from a speech in 2000 at the Millennium Meeting in Paris by a Field medallist (the equivalent of the Nobel prize) Timothy Gowers.

The importance of mathematics (T. Gowers)

....

Taken as a whole, then, mathematics is undeniably important. However, a cost-cutting finance minister will notice a gap in the above argument; might it not be possible to achieve the same benefits more cheaply? If the benefits of mathematics come from teaching a few breakthroughs, while most mathematicians get on with their interesting but useless research, then why not cut the research funding to the useless areas and just support the teaching and the more practically oriented mathematics? One of my main objectives today is to expose the fallacy, or rather fallacies, that would lie behind such a proposal.

The first one is the idea that it is possible to identify the areas of mathematics that will turn out to be useful. In fact, it is notoriously hard to predict this, and the history of mathematics is littered with examples of areas of research that were initially pursued for their own sake and later turned out to have a completely unexpected importance. A [...] fundamental example is the non-Euclidean geometry of Gauss, Bolyai and Lobachevsky, which is internally consistent despite such apparently paradoxical phenomena as the existence of triangles with angles not adding to 180 degrees. This paved the way for Riemannian geometry, which seemed to be an example of pure mathematics par excellence until it turned out to be exactly what Einstein needed for his general theory of relativity.

More than a decade later and in spite of such warnings, scientific research and higher education in Western Europe seem strongly steered by a short-sighted cost-cutting policy.

Let me name a few examples of whole research departments or institutes threatened with closure in the Netherlands, Austria and England. These accounts are based on information found on the Web.

- The VU (*Vrije Universiteit*) University Amsterdam, which like other universities in the Netherlands, suffers from recurrent financial underfunding, decided in 2011 to close down the geometry section in pure mathematics allowing with this decision for termination of four tenured positions and for topics like algebraic K-theory and general/geometric topology to cease to exist in the Netherlands. A petition signed by many mathematicians was not enough to prevent this closure.
- In October 2010, the Erwin Schrödinger Institute—a research institute located in Vienna, Austria, whose aim is to stimulate cross-fertilisation between mathematics and physics and which used to receive its basic funding from the Austrian Federal Ministry of Science and Research—was informed—without prior warning—that its funding by the Austrian Ministry of Science would be terminated effective 1 January 2011. Due to the strong objections of the international scientific community, this decision was reconsidered, resulting in the creation on 1 June 2011 of a “Forschungsplattform” (Research Platform) by the University of Vienna under the name “Erwin Schrödinger International Institute for Mathematical Physics”. The Ministry of Science has promised funding for the new Forschungsplattform until 2015.
- In 2010, Middlesex University in London announced the closure of its philosophy department because the department was judged by the university to be not financially sustainable and despite the fact that Philosophy had been the highest ranking department in the university’s latest Research Assessment Exercise (RAE) in 2008. An international campaign of support was organised with prestigious philosophers, and many others expressing their strong disapproval and articles condemning the decision appeared in the national press. Students protested actively on campus and elsewhere for the restitution of the department. In early June 2010, it was announced that the department’s postgraduate component, the CRMEP, was to be transferred to Kingston University, but the undergraduate programme was still to be phased out.
- More recently in 2016, at the University of Leicester,² the 21 permanent research active staff members of the mathematics department were to reapply for their jobs in a competitive process, in view of sieving out 6 among the “lowest performers”. Those “lowest performers” who would then be considered for “redeployment” are evaluated on their “performances” such as research grants,

²This information is taken from Tim Gowers’ blog <https://gowers.wordpress.com/2016/09/15/in-case-you-havent-heard-whats-going-on-in-leicester/>.

research outputs, teaching feedback, and “the ongoing and potential for continued career development and trajectory”.

Let me now describe the situation in France, which I am most familiar with.

- The **Centre national de la recherche scientifique (CNRS)** (National Center for Scientific Research) founded in 1939 and which lies under the auspices of the ministry of research was one of the largest public research organisations in Europe dedicated to funding fundamental research. The recently (in 2005) founded National Research Agency (ANR), initially planned on a short-term basis but which has since then turned into a permanent public agency, presently acts in France as an important alternative funding source to the CNRS. It funds research projects on a short-term basis (typically 2–4 years) on the grounds of their scientific excellence and their potential applications. The ANR has been steadily growing at the expense of the CNRS which is struggling to find its place in this new panorama. The relatively transparent peer-reviewing system traditionally implemented by the CNRS has been replaced by the rather opaque evaluation system of the ANR which has met a number of criticisms and led to some frustration among scientists. The long-term laboratory or research team funding policy of the CNRS is being superseded by the short-term project-based individual (piloting a research group) funding of the ANR, bringing colleagues to compete against each other instead of joining forces for the benefit of their department.
- As for higher education, a new law for universities was passed in 2008 called “*Freedom and responsibilities for universities*” (Libertés et responsabilités des universités) which has put more power in the hands of the university presidents enabling them to hire staff, to buy, sell or let out university premises and grounds, without any state intervention... this on paper since in many cases, the financial means provided by the state to the universities turned out to be far too low to implement such a self-governing policy. This has led to uneven competition among the universities, privileging the largest ones and making it hard for the smaller ones to preserve their research teams and not turn into higher education US-type colleges. Breaking with a long-lasting tradition of free and state governed higher education in France, universities are now tempted to introduce university entrance fees and turn to private sponsors to compensate for the lack of state funding. Universities advertise all kinds of fancy master studies to attract students, thereby increasing their number and hence their funds.

Germany has long adopted a short-term project-based funding—so-called *Drittmittel*, third-party funding—policy with funding essentially (but not only) emanating from the very influential and respected private agency “Deutsche Forschungsgemeinschaft” whose evaluating system is based on peer reviewing. On all levels, whether university, department or on an individual level, fund-raising has become a central criterium for excellence and as is the case in France, short-term project funding is superseding the long-term funding of universities. Gerhard Vogt—treasurer of the Nord Rhein-Westfalen region—reports in the February 2014

issue of the Magazine “*Forschung und Lehre*” edited by the *Humboldt-Stiftung* that project funding at universities now reaches an average of 24% (and up to 40% for some universities) and that an average of 26% of the university staff is paid on project funding funds.

More and more does one read critical analyses of the third-party funding system. Stefan Kühl, a sociologist at the university of Bielefeld, in his contribution “*Abschied von der Belohnung guter Pläne*” (farewell to future project funding) to this same issue of the magazine “*Forschung und Lehre*” and in an article in the January 8th issue of the German daily newspaper *Tageszeitung* “*Mehr forschen statt dichten*” pleads for a prize system on achieved results rather than an evaluation on projects yet to be realised.

To conclude, based on my personal experience as professor in France and Germany, I want to mention some of the pitfalls of the marketing trend in today’s research policies:

- Short-term projects with concrete applications can be favoured over long-term fundamental research projects with yet unpredictable applications;
- Fashionable topics can be favoured over less fashionable ones, which nevertheless could prove to be very useful in the long run;
- The pressure to produce according to quantifiable parameters such as the number of publications, the impact factor can encourage quantity at the expense of quality, and
- Academics turn into research managers, managing research teams and administering funding, rather than actually producing research.

This at the cost of an invaluable freedom of thought indispensable to reach any deep result. Carrying out research freely has turned into a huge challenge and sometimes impossible task. Institutions such as the CNRS in France and the Academy of Science in Ukraine which used to seem invincible have become vulnerable; yet they are the fortresses which used to ensure the long-term future of fundamental science.

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nochmals deutlich an Fahrt gewonnen. Aber sind Hochschulen und Forschungseinrichtungen inzwischen wirklich völlig.

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Part II
Economic Factors in Contemporary
Higher Education

Chapter 3

Organizational Learning Mechanisms and Corporate Entrepreneurial Orientation



Anastasiia Lutsenko

Learning is a fundamental requirement for business renewal and innovative activities. It is defined as a cumulative concept, which allows a firm to increase its stock of knowledge and experience, as well as of capabilities, which, in its turn, provides the company with the opportunity to undertake innovation activities. Apart from that, it is a process of accruing additional knowledge and technical skills by individuals as well as by the organization from its internal and external sources of knowledge, which organization possesses (Cohen and Levinthal 1989; Malerba 1992). Learning can be understood as a mechanism providing individuals with an opportunity to acquire knowledge from external sources (Amsden 1989; Viotti 2002).

Some researchers concur in that low level of learning infrastructure development within the organization is a basis for impaired development and may affect the overall quality of the organization. Furthermore, Tajeddini (2009) argues learning orientation as a critical key to business success. Additionally, Huber (1991) shed light on the importance of gaining new knowledge for the new services development. And, Slater and Narver (1995) describe learning orientation as an instrument, which allows firms to gain flexibility and ability to react to macroeconomic factors “faster and with more knowledge in operation.” Being introduced by Popper and Lipshitz (1998), organizational learning is described by number of academics as a lifelong process (Reuber and Fischer 1999) and OLMs are important antecedents for improvement, renewal and sustainable development (Eisenhardt and Martin 2000; Zollo and Winter 2002) and competitive advantage (Brockman and Morgan 2003). Kars-Unluoglu and Easterby-Smith (2011) also emphasize the unity aspect of OLM stating that “OLMs are social arenas where individual experience and knowledge are shared with and analyzed by other organizational members.” Nevertheless, this process must be supported by organizational culture, as Popper

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and Lipshitz (2000) suggest and by contextual and organizational factors (Zollo and Winter 2002).

A number of endeavors were made by researchers to systematize knowledge within the domain of OLM. For instance, Edmondson and Moingeon (1998) came up with the following notion: “the process in which an organization’s members actively use data to guide behavior in a way as to promote the ongoing adaptation of organization.” One of the recent ones there is a description of Armstrong and Foley (2003), who found OLM to be an “An instrument for systematically measuring and monitoring progress toward achieving a learning organization.” Additionally, according to Schildt et al. (2005), learning mechanisms proved its vitality for the entrepreneurial activities, as training was found to be positively related to the innovation processes (Lau and Ngo 2004). Next part is designed to provide the reader with the critique in the domain of corporate entrepreneurial orientation.

Corporate Entrepreneurial Orientation

Although Schumpeter (1934) was one of the first to emphasize importance of the innovation for the entrepreneurial process, term entrepreneurial orientation itself was founded by Miller in 1983 and consists of three components: innovativeness, proactiveness, and risk-taking. According to them, an entrepreneurial firm is one that engages in product–market innovation, undertakes somewhat risky ventures, and is first to come up with “proactive” innovations (Miller 1983).

Straight after that interest to the term has increased significantly (Covin et al. 2006) and Covin and Slevin developed the concept further in 1989 and Lumpkin and Dess polished it in 1996. So, nowadays entrepreneurial orientation is known to be a five-dimensional concept, which includes proactiveness, innovativeness, risk-taking (Miller 1983), autonomy, and competitive aggressiveness (Lumpkin and Dess 1996; Covin and Slevin 1986, 1989). Additionally, it is recognized as a firm-level phenomenon and firms with higher level of innovativeness and proactiveness are performing better. Furthermore, researchers concurred on that EO refers to the strategic orientation of the business (Lumpkin and Dess 1996) and is more related to the organizational behavior rather than the action of individuals (Covin and Slevin 1991).

Dimensions of Entrepreneurial Orientation

A substantial number of researchers investigate field of entrepreneurial orientation (EO) and find that its dimensions have a high level of inter-correlation (Richard et al. 2004; Bhuian et al. 2005). Therefore, often those dimensions are seen as a single factor (e.g., Lee et al. 2001; Naman and Slevin 1993; Walter et al. 2006; Wiklund and Shepherd 2003).

Nevertheless, EO dimensionality is still a question for debate within academia. From one side, Slevin and Covin (1997), as well as Knight (1997), find EO as a one-dimensional concept with three components. From the other, Lumpkin and Dess (1996), George (2006), and Kreiser et al. (2002) suggest that EO is a multi-dimensional concept.

Within the existing body of knowledge, the following characteristics of dimensions are outlined:

Innovativeness—is a central aspect for success of the organization in long-term performance (Hult et al. 2004; Atuahene-Gima 1996) and has been studied widely within the research community (e.g., Lumpkin and Dess 1996; Kimberly and Evanisko 1981). For example, according to Lumpkin and Dess (1996) innovativeness is a tendency saying that its “firm’s tendency to engage in and support new ideas, novelty, experimentation, and creative processes that may result in new products, services, or technological processes.” Later, Rauch et al. (2004, p. 165), having a similar understanding of the term, add that innovativeness is related to R&D processes stating that innovativeness is a “predisposition to engage in creativity and experimentation through the introduction of new products/services as well as technological leadership via R&D in new processes.” Furthermore, researchers also attempt to classify innovativeness. Authors suggest having two types: technological (Lumpkin and Dess 1996) and product–market (Lumpkin and Dess 1996; Miller and Friesen 1982; Scherer 1980) innovations.

Risk-taking is a vital component of entrepreneurial orientation (Tajeddini and Mueller 2009), as it has a positive correlation with business success and performance (Lumpkin and Dess 1996). However, according to Rauch et al. (2009) there is no significant relationship between these two variables. According to Miller and Friesen (1982), risk-taking is “the degree to which managers are willing to make considerable and risky resource commitments—i.e., those which have a reasonable chance of costly failures.” Apart from that, it is about being aggressive in the exertion of new opportunities and Lumpkin and Dess (1996) also suggested that there are particular types of risks—safe and heavy risks—which may involve different amounts of financial capital at risk.

Proactiveness is understood as interpretation of entrepreneurial orientation from the point of view of anticipation of future possibilities in terms of products and new markets, and technologies (Lumpkin and Dess 1996; Miller and Friesen 1982; Miller 1983) and is about “eagerness to take initiative” (Tajeddini and Mueller 2012): “forward-looking perspective that is accompanied by innovative or new-venturing activity” (Lumpkin and Dess 1996). Additionally, it is suggested that proactiveness is about emphasizing initiating activities and being rather a leader than a follower and is a crucial competitive advantage (Lumpkin and Dess 1996). Venkatraman (1989) provided the following definition: proactiveness is “seeking new opportunities which may or may not be related to the present line of operations, introduction of new products and brands ahead of competitors, and strategically eliminating operations which are in the mature or declining stages of life cycle.”

Competitive aggressiveness is the style in which the company interacts with its competitors by classifying them into different groups based on value and danger.

According to statements of Dean (1993), it is the most vital component of corporate entrepreneurial orientation. Additionally, Lumpkin and Dess (1996) suggest that CA is “a firm’s propensity to directly and intensely challenge its competitors to achieve entry or improve position, that is, to outperform industry rivals in the marketplace.” Moreover, Covin and Slevin (1989) supported the tendency within the literature to equate and interchange notions of proactiveness and competitive aggressiveness and entrepreneurship as characterized by constant and extensive technological and product innovation, a high risk-taking propensity by top management, and an aggressive competitive orientation.

Meanwhile, *autonomy* refers to “the independent action of an individual or a team in bringing forth an idea or a vision and carrying it through to completion” (Lumpkin and Dess 1996).

Relationship Between OLM and CEO

An extensive number of works has been written in the field of entrepreneurship within the transitional and developing countries, and with different social canons and culture. It was found that OLM has a greater impact on CEOs in big business rather than within smaller ones. Additionally, the value of learning is widely recognized within the entrepreneurship literature (Moingeon and Edmondson 1996) and Wang (2008) suggests that entrepreneurial orientation is a determinant of the level of learning orientation existing within an organization. Furthermore, academicians also studied learning mechanisms widely, as they are found to be bases for the innovation for the organization (Malerba 1992; Cohen and Levinthal 1990; Zollo and Winter 2002).

General Conclusions

According to Naman and Slevin (1993) and, entrepreneurship is understood as the ability to permanently innovate, renew, take risks, and convert innovative ideas into valuable products. In spite of some authors emphasized the importance of strong entrepreneurial orientation for the technological sector of economics (Tajeddini 2011), not that many works have been conducted within the domain of entrepreneurial orientation and its antecedents. Apart from that, software development industry is growing and developing by leaps and bounds (Tessler et al. 2003) and depends a lot on the well-trained high-quality employees (Dessler 2006).

Furthermore, an extensive literature review has shown a lack of research and literature in the field of relationship between the components mentioned above for the software development industry in the emerging countries, countries with the unstable economic and social situations and for the countries in the state of war globally as well as Ukraine, in particular. Therefore, it is recommended to

investigate the following relationship in the domain of software development services sector of the economy in Ukraine with the further possibility of transmitting this research framework forward to the countries with the similar characteristics.

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Chapter 4

The Role of Venture Capital in the National Innovative System



Larisa Antoniuk and Anastasiia Zaproviuk

The experience of the developed countries confirms that effective changes, upgrades, high level of competitiveness of the economy can be achieved only through constant innovation processes, both at macro- and micro-levels. In general practice all over the World, funding innovative processes successfully used such unique source of investment resources as venture capital. In the domestic economy, venture capital has not yet emerged as capital invested to fund risky, innovative projects. Therefore, today there is a need for deeper and more detailed study of the structure and the theoretical foundations of venture capital (VC).

The Role of Venture Capital in the National Innovative System

Experience of management shows that in countries with developed market relations, venture capital business plays an active role in meeting the needs of most people in new products, via increasing scientific and technological level of production, creating a competitive environment in science, and providing operational commercialization of new developments and projects affecting on the dynamics of the whole national economy. Its role in the background in the administration of higher education needs elaboration. Main trends of the global venture capital industry are

- Cyclical dynamics of venture capital investments;
- Renaissance of venture financing;
- Leadership of the US State of California regarding venture capital in the world.

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Notably, 40% of US investments are concentrated in California; the most attractive sectors for US venture capital funds are software, biotechnology, and media projects, which account for over half of all venture capital investments:

- Increasing of venture financing by business angles;
- Reduction the average length of time from initial investment in a start-up company to its entering the IPO;
- Investments, which tend to be focused in the USA on later stage businesses, generally have a positive impact (Venture Capital Report 2014);
- Competition for high-quality deals is fierce. VCs are competing with each other and with other sources of capital. Establishing a robust VC value proposition for investee companies is a must-do strategy (Venture Capital Report 2014);
- While US VC still dominates, Asia is starting to surpass Greater Europe (US VC investment in 2013 was near \$22 billion, European—3.4 billion Euro, and Chinese—\$6.92 billion (Venture Capital Report 2014);
- IPOs make up majority of exits in China (4 exits), USA (81 exits) in 2013 (Venture Capital Report 2014), and;
- Leading sectors in the USA for 1Q 2014 are Software (4.1 billion Dollars = 42% of total), Biotechnology (1.1 billion Dollars = 11% of total), IT services (816 million Dollars = 9%), Media & Entertainment (743 million Dollars = 8% of total), (Venture Capital Report 2014).

To summarize—the primary functions of venture capital in the present situation of the world economy:

- Innovative;
- Investment support of scientific and technological activities;
- Structural renewal of the economy, and;
- Entrepreneurial function.

Venture capital plays a vital role in the national innovation system and helps the Country to keep technological leadership in world markets and increase international competitiveness (Fig. 4.1). The concept of “national innovation system” emerged in the 80s of the last century and is widely used in many countries.

Freeman (1987) considered the national innovation system as a network of institutions, public and private sectors whose activities and interactions initiate, import, modify, and distribute new technologies (Freeman 1987). At the same time, Nelson (1993) defines the national innovation system as a set of institutions whose interactions determine the innovative performance (effectiveness) of domestic firms (Nelson 1993).

Lundvall (2007) explored the problem of interaction between producers and consumers of knowledge. He considered the National Innovation System as a set of elements and relationships which interact in the production, distribution and use of new, cost-effective knowledge (Lundvall 2007). The OECD report states national innovation system as a combination of private and public sectors, individually and

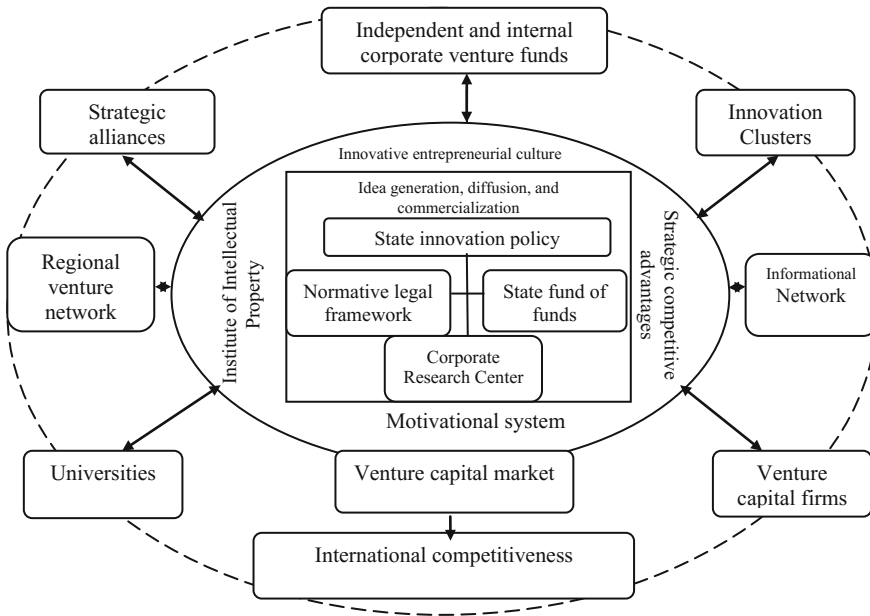


Fig. 4.1 National innovation system

in concert contribute to the development and diffusion of new technologies within a country (OECD 1992).

The Case of Ukraine

A similar definition is contained in the Cabinet of Ministers of Ukraine of 17 June 2009 № 680r “On approval of the concept of national innovation systems”, which states that the national innovation system—

a combination of legislative, structural and functional components (institutions) that are involved in the process of development and use of scientific knowledge and technology, the legal, economic, organizational and social conditions of the innovation process within national borders and ensure the growth of competitiveness of local organizations and businesses by increasing their innovation activity (*translated from original Ukrainian Law*) (Cabinet of Ministers of Ukraine [CMU] 2008).

It should be noted that for a better understanding of the nature of a national innovation system it is important to identify its structural elements and the relationships between them.

The efficiency of the functioning of venture capital requires favorable conditions and appropriate environment. The International Centre for Financial Research Business School University of Navarra has developed a method of calculating

Global Venture Capital and Private Equity Country Attractiveness Index (The Global Venture Capital and Private Equity Report [GVCPEI] 2013). For calculating this index, all countries valued at the main criteria: economic activity, the development of the capital market, taxation, investor protection and corporate governance, human development and social environment, entrepreneurial culture and opportunities (<http://blog.iiese.edu/vcpeindex/>). This index confirms that the best conditions for the development of venture investment and Private Equity in 2013 established the USA (index = 100). Favorable conditions also are in Canada (index 97), and the UK (index 95), Japan and Singapore closed the top five with the index 93, which indicates a fairly favorable investment climate in these countries. Ukraine ranked the position 69 in the overall ranking (GVCPEI 2013).

We exacerbated research by conducting cluster analysis of the countries evaluated in this index. As a result of the analysis, we have managed to distinguish six clusters of countries with different levels of attractiveness for providing venture capital. The USA is in the first cluster, and today, it is a country—key innovator. Ukraine is in the fourth group, which also includes such European countries as Estonia, Slovakia, Slovenia, Lithuania, Latvia, Croatia, and Georgia (Table 4.1).

Table 4.1 Results of cluster analysis of the level of attractiveness to carry out venture business in 2013

Clusters	Country rankings	Mean value for the group max = 100
1	USA, Canada, UK, Japan, Singapore, Australia, Germany, Hong Kong, Sweden, Switzerland, Denmark, Norway, New Zealand, Netherlands	90.7
2	South Korea, Belgium, Malaysia, Taiwan, France, Israel, Finland, Austria, Ireland, China, Chile, Saudi Arabia, Spain, Poland	78.8
3	India, South Africa, Italy, Thailand, Turkey, UAE, Czech Republic, Brazil, Portugal, Mexico, Colombia, Russia, Luxembourg, Hungary	65.7
4	Lithuania, Slovakia, Slovenia, Oman, Indonesia, Argentina, Bahrain, Tunisia, Estonia, Peru, Bulgaria, Iceland, Morocco, The Philippines, Egypt, Jordan, Mauritius, Latvia, Kuwait, Romania, Cyprus, Vietnam, Croatia, Uruguay, Greece, Zambia, Ukraine, Kenya, Pakistan, Georgia, Bosnia and Herzegovina, Botswana, Ghana, Nigeria, Namibia, Kazakhstan, Jamaica, Macedonia	51.5
5	Mongolia, Serbia, Ecuador, Uganda, Bangladesh, Montenegro, Belarus, Armenia, Cambodia, Tanzania, El Salvador, Algeria, Guatemala, Paraguay, Mozambique, Moldova	35
6	Syria, Ethiopia, Nicaragua, Cameroon, Venezuela, Dominican Republic, Burkina Faso, Senegal, Albania, Zimbabwe, Kirgizstan, Mali, Madagascar, Lesotho, Angola, Chad, Burundi	21

Analysis of domestic venture business allowed distinguishing significant disparities in the development of this sector. Equally important is the increase in the number of venture capital funds in Ukraine, as well as a significant increase in the value of their assets, is related not to the development of venture capital investment but to the existing possibilities of the use of this collective investment institution type as a mechanism to avoid taxation. We noted the following main barriers to the development of the venture investment in Ukraine: absence of an effective national innovation system, the poor state of scientific and technical sector resulting in lower exports of high-technology (high-tech) products, insufficient funding of R&D, corruption, instability on the financial market. Ukraine has a 1030 venture capital funds (Ukrainian Association of Investment Business [UAIB] 2014), but their activity is significantly different from the activity of similar institutions in the USA. Our calculations show that the ratio of the net assets of venture capital funds to GDP in Ukraine is 6.18%, which is more than six times higher than in the USA. And this is despite the volume of high-tech exports—3% of GDP, which is ten times lower than in the countries—key innovators (Venture Capital Report 2014).

We believe it is necessary to propose the following measures to create appropriate conditions for the development of venture capital industry in Ukraine, through the development the regulatory framework and policies in innovation sphere and measures on the intensification of venture capital activity:

- Formulation and implementation of the Law of Ukraine “On the venture capital business”;
- Settlement of Intellectual Property Protection;
- Increase the percentage of public investment in research and development;
- Establishment of the State Fund for Support of new innovative enterprises;
- Improvement of the mechanism of venture projects selection;
- Creation of a national venture capital firm as a “fund of funds,” and;
- Permanent development of innovation activities infrastructure.

The most attractive areas for investment in Ukraine are building, food processing, and retail. This sectoral distribution is peculiar to Ukraine because such industries are attractive and little risky, opposed to the EU and the USA, where venture investments are made in high-tech sectors. Implementation of innovative public policies based on the proposed measures above will allow Ukraine to use the current potential for development with the greatest efficiency. Implementation of measures aimed at stimulating investment activity of all entities will facilitate the transition of Ukraine’s economy to an innovative model of development and enhance the international competitiveness of our country in the world.

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Chapter 5

The Emerging Technology as an Economic Policy Category



Vitalii Gryga

At the present time, it becomes increasingly evident that traditional sources of economic and social development have exhausted themselves, so each country has to pay more attention to the efficiency of available resources utilization. In its turn, it requires the emergence of new technologies that can radically change production processes through the use of new materials, processing techniques, etc. Thus, it is not surprising that governments of different countries are implementing active policies of technological modernization, and, consequently, the creation and use of new technologies. At the same time, the new point of interest has been aroused in the research community that is the identification of future technologies, or so-called «emerging technologies».

The Emerging Technology

In Ukraine, the issues of new technologies are still ignored by politicians, and there is no term related to emerging technologies in policy making process of Ukraine. This paper aims to provide a rationale for implementation of the term “emerging technologies” into scientific and policy making practices in Ukraine, which allows to increase the practical relevance of research and strengthen the position of Ukraine in the global research area.

Despite the fact that “emerging technology” is the quite old term, active discussions of issues related to them have started only in the 90s, when the research on innovation development has been intensified. However, the term “emerging technology” is often used in scientific journals in the specific field of science, rather than in policy research. An analysis of research publications on the emerging

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technologies showed that the term aroused in the 60s of the last century. The experts from the Center for Technology Policy and Evaluation of Georgia Institute of Technology carried out a research project to identify and measure emerging technologies. That project was ordered by the Korean Institute of Scientific and Technical Information. They analyzed the theoretical issues of emerging technologies using scientometric analysis of almost 2000 documents registered in the database ISI Web of Science for years 1956–2005, which included the concept of “emerging technology” (Cozzens et al. 2010). The Google Scholar (December 7, 2016) found around 4440 publications with the term «emerging technologies» in the title, 70% of these papers were dated between 2006 and 2016, and more than 20% between 2014 and 2016. However, the Google Scholar database feature that one article can be considered several times slightly reduces the significance of obtained results. In Ukrainian segment of the Google Scholar, there were about 250 publications for the query «emerging technologies».

It should be noted that a significant number of papers, which deal with the emerging technologies, do not include their definitions and their authors rely more on intuitive understanding. The analysis of definitions provided in different studies (see Cozzens et al. 2010; Rotolo et al. 2015; Porter et al. 2002; Corrocher. et al. 2003; Hung and Chu 2006; Day et al. 2004; Adner and Levinthal 2002; Einsiedel 2009) shows the following characteristics inherent in the emerging technologies:

1. The speed of development. It is presented in the vast majority of papers, and respectively, it is one of the key characteristics used for identification or selection of emerging technologies.
2. As new technologies associated with the evolution, so it is logical that some definitions of emerging technologies include second characteristic—the transition or change to something new. This implies, first of all, that the changes are not directly related to the market, such as the expansion of knowledge (Day et al. 2004) while it may be not entirely clear how this new knowledge can be used. In turn, the development of knowledge should include activities such as finding new ways of existing technology or knowledge implementation. Thus, the second characteristic of emerging technology includes not only radical innovation but also improving ones. They noted that emerging technologies included technologies based on radical innovation as well as evolutionary technologies created in the past research.
3. The ability to change an existing field or create a new one is another important feature of the emerging technologies. Also, these technologies can affect not only the functioning of the market but also to change the environment and society. In assessing the ability (potential) of technology to environmental changes, it is important to choose the time frame during which the emerging technology has to prove its effectiveness and importance (Porter et al. 2002).
4. The availability of modern scientific basis is the next feature of emerging technologies, since the development of many technologies, which have a revolutionary impact on the economy and society, depended on progress in science (Cozzens et al. 2010). Moreover, Jamison and Hård (2003) emphasized that

emerging technologies usually occurred in experimental laboratories, which required higher costs than traditional purely basic research projects. Innovations based on achievements in nano- and biotechnologies are the examples of such technologies. Also, the practical use of emerging technologies requires more skilled labor force compared to traditional industries.

5. The need for knowledge from a wide range of specific scientific fields is the last but not least feature that we found during research papers' screening. It means that emerging technologies often combine some techniques and areas of research, generating new related industries. In the literature, it is referred as clustering and spillovers' effects.

Thus, among all definitions of emerging technologies, we consider the most relevant. According to this definition technology based on the research results characterized by novelty, rapid development, and potentially significant impact is the emerging technology (Cozzens et al. 2010). Some scholars—particularly in Ukraine—tend to use the terms “emerging technologies” and “newest or latest technologies” as synonyms. Nevertheless, that is not entirely correct, because the first term also includes other features, we mentioned above. In fact, the emerging technology is only part of the newest technologies.

Disruptive technology is the closest term to the emerging technology. It is quite widely used in innovation theory. Even J. Schumpeter noted that innovation was the creative destruction. Disruptive technology, based on the analysis conducted by A. Wright, provides significantly better quality products that are in the market demand, and therefore “disrupt” or divide the relevant market (Wright, n.d.). In turn, Christensen (1997), who is considered as one of the classics in this field, emphasizes that disruptive technology has a lower efficiency on the early stages of its development than existing one. Besides disruptive technologies, so-called supporting technologies that improve the efficiency of existing technologies may be aroused. These techniques relate only to the market of existing product technologies, improving only the quality of goods, which had already some value provided by the consumer (Christensen 1997).

Empirical research on disruptive technologies conducted by Walsh et al. (2002) showed that they are rarely implemented by existing firms, while start-ups that commercialize the technologies received two types of benefits: reduced time-to-market and independence in developing marketing strategies. Therefore, the number of innovative small businesses is a good indicator of the innovative capacity of a country and industry as well.

After that, a series of studies devoted to the analysis of disruptive technology as phenomenon were done. The disruptive technology was defined through scientific inventions that make their way through the usual products and technological capabilities and form the basis for new competitive paradigm (see Kassicieh et al. 2002; Kostoff et al. 2004). Pretty good definition, in our opinion, is presented by Danneels (2004), namely disruptive technology is a technology that changes the principles of competition by changing the metrics of its efficiency.

As for differences between the two terms, it should be noted that disruptive technology is focused on market and competition while emerging technology is more oriented to the expansion of knowledge base. Also, disruptive technologies typically deal with radical innovations and the emerging ones combine the radical and improving innovation. However, the major difference is that disruptive technology is not characterized by rapid development (Cozzens et al. 2010).

Another term that is often used synonymously with the emerging technology is high technology. Similarly, high technology is also significantly dependent on S&T activity, including R&D. The result of this dependence is quite an intensive introduction of new or improved products and services. High-tech enterprises usually have a significant economic impact, which is fueled by the high cost of R&D, capital investment and higher than the industry growth rate of sales, employment of scientists/researchers, engineers, etc., and wages (Cozzens et al. 2010). It was also believed that the high-tech industry had higher performance, ensuring international competitiveness and living standards (Riche et al. 1983).

The relationship between high and emerging technologies are also quite vague. In theory, the last may belong to the medium and low technology. On the other hand, not all high technologies are the emerging ones. The time factor, i.e., novelty, and speed of development are characteristics that distinguish high technology from the emerging. Also, the difference may lie in the potential of high technology; not all high technologies can significantly influence the economy and society. In fact, since high technology should not be new, emerging technologies can be part of high technology.

Thus, it can be argued that the term “emerging technology” is an independent, although there is a close relationship with other terms of innovation theory. It has great practical importance for economic growth. Timely identification of the most promising direction of technology development significantly increases the chances of their implementation and diffusion within the country. But, in turn, it requires relevant policy measures to support them.

Exploring the official documents of the European Union, we found another term that is associated with the “emerging technology.” In 2009, the EU used the term “key enabling technology,” which is defined as “knowledge intensive technologies related to high R&D expenses, rapid innovation cycles, high capital and highly qualified personnel.” They are systemic in nature and cause new processes, products, and services development. They are multidisciplinary, permeating many areas of technology with a tendency to convergence and integration. The key underlying technology can assist technology leaders in other areas of their efforts to capitalize on the research (see COM 2012, p. 341 final).

It should also be taken into account that the key enabling technologies are considered as a group of technologies, combined with the type of processes on which they are based, namely nanotechnology, micro- and nanoelectronics, new advanced materials, biotechnology, and photonics (High-level expert group 2011). The reason for this grouping is a need to reduce the future risks because nobody knows what technology will be widely used in the economy or industry in the future.

So, a level of objectivity is the difference between emerging and key enabling technologies. If the latter related to policy priorities set up by the official documents, i.e., technologies desirable to develop and use, based on the needs of the country (COM 2009, p. 512), the emerging technology are real technologies developed or implemented to spread in the global economy. In fact, the emerging technologies can be the key enabling technologies just after their recognition at the political level.

At the same time, in the Horizon 2020 EU Programme, a special section is devoted to the future and emerging technologies (FET, n.d) with 570 mln Euro budget for 2016–2107. It is noteworthy that this document does not provide any definition of FET, although several research areas such as graphene and the human brain are present in the explicit form. It proves our idea that the EU does not want to miss its chance pegging development to a certain limited number of technologies that are key enabling ones. Therefore, in our opinion, we can conclude that emerging technology is reflected in national strategic documents in which that term is filled with concrete sense.

It is clear that the development of emerging technologies needs more than theoretical discussions. It should be as close as possible to identify which emerging technology would be widely used shortly and to take appropriate measures for their development and diffusion of the economy (depending on the capabilities of the country).

Methods for the identification of emerging technologies are based on three most important principles (Cozzens et al. 2010):

1. The ability to determine the novelty by measuring the speed of development;
2. The ability to distinguish science from technology. It is logical that the first information about the new emerging technology will appear in the scientific literature. However, not all these “shoots” will turn into real technology, and;
3. The necessity to find evidence of market potential.

Given these principles, patent data is often the primary source of information that satisfies more or less all mentioned requirements. Some problems exist with the third item, but now it is almost impossible to evaluate the market potential of technology using pure quantitative methods. Even expert assessment is conditional, as expected reaction of consumers to a particular technology is not known.

Thus, according to the study of international patents using burst analysis technique (Kleinberg 2003), OECD experts detected following technological trends, with high growth rates during last 10 years: wireless communication systems and methods of data processing specially adapted for administrative, commercial financial, supervisory purposes and forecasting the composition of detergents, microorganisms or enzymes; their composition, specific therapeutic activity of chemical compounds or drugs, etc. (OECD 2013).

Also, they identified high activity in the co-development of technologies emerged at the intersection of different scientific fields. For example, there are display devices that have arisen as a result of co-innovation in basic electric

elements, display devices, and optics. There are more and more technologies developing at the intersection of medical/veterinary sciences and biochemistry, as well as at the intersection of medical/veterinary sciences with measurement and testing (i.e., medical diagnostic systems); electric power storage, wireless and digital communications, lighting, electric and hybrid transportation, etc.

It should be noted that some experts consider nano-, biotechnology and ICT (Alford et al. 2012) and genomics (Einsiedel 2009) as emerging technologies. However, as it is shown above, nanotechnology is not directly included in the group of patents with the rapid development.

The next question was how emerging technologies might be developed in Ukraine. To answer this question, we analyzed the database of patents registered in Ukraine (the specialized database “Inventions (Utility Models) in Ukraine” is accessible at official Web site of the Ukrpatent), where we searched patent pairs identified as emerging technologies by the OECD. Overall, we studied 33 patent pairs. We made the following conclusions about the correspondence of national development to global trends:

- Despite the increase in the total activity of domestic patent applicants, its rate is quite low (on average during last 13 years the rate is only +0.3%);
- The majority of patents, including the technological trends recognized worldwide as perspective and emerging, are not valid, even among those that were obtained in the past five years. That is a practice of patenting without keeping them in force after that in Ukraine;
- Declarative patents for utility models are a significant part of patents received by domestic applicants. It makes almost impossible to maintain effective protection of intellectual property rights;
- The process of developing the emerging technologies in Ukraine is highly fragmented and poorly integrated into the technology chains as a whole. Only a limited range of research teams can develop future emerging technologies.

Summing up we should emphasize that more active use of the term “the emerging technology” in the practice of Ukrainian policy making process is reasonable. At least emerging technologies should become a visible part of nation R&D policy, as it is done in most of the OECD countries (OECD 2012). Unlike technological forecasting, which is oriented on long-term periods, the identification of emerging technologies is more closely associated with the actual and real processes of science, technology and innovation development, the economy and society. Thus, the use “emerging technologies” in policy making might have more concrete results, particularly in focusing efforts to encourage the development of a few number of technological niches and creating the conditions for absorption of new technologies in the Ukrainian economy. By the moment, we could not find special policy measures which targeted specific emerging technology in global sense, while S&T and innovation priorities are defined in quite a broad way in national laws.

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Chapter 6

Scientific Cooperation in Basic Research and Higher Education



Olha Krasovska, Valentyna Andrushchenko and Irina Velichko

The Ukrainian State Fund for Fundamental Research (SFFR) was established in 1992, and more than 20 years it provides research grants for Ukrainian scientists on the competitive basis. The fund is the only one state organization providing grant support for scientists of Ukraine. SFFR is the scientific organization under the umbrella of Ministry of Education and Science of Ukraine. Since the creation of the Fund till 2014, more than 60 different initiative project competitions have been held both nationally and internationally. More than 25000 proposals have been submitted, and almost 6000 projects have been granted. Nearly 20000 publications, hundreds of monographs, tens of licenses and patents could be the confirmation of significant efficiency of the SFFR activity.

For example, according to the official reports of SFFR (www.dffd.gov.ua) in 2013, the Fund budget was 29 million UAH (about 3 million euros). A total of 257 projects were financed including:

- Seven joint projects with German Research Foundation (DFG, Germany);
- Six joint projects with National Center for Scientific Research (CNRS, France);
- Five joint projects with National Scientific Foundation (NFS, USA);
- Ten joint projects with Japan Society for the Promotion of Science (JSPS, Japan), and;
- More than 150 joint projects with Russian and Belarusian Funds for Fundamental Research.

First of all, it is worth mentioning projects of the Problem (Key) Laboratories. These are the Laboratories of Molecular and Cell Biology and Physics of High Energy. Grants of the President of Ukraine for young scientists are also an important part of the SFFR grant activity.

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Ukrainian–German Cooperation in the Field of Basic Research

The Ukrainian–German cooperation has a particular place in the Fund’s activities. The official partnership started in 1993 when Intergovernmental Agreement on German–Ukrainian science cooperation was signed. Within the framework of competitive activity of the SFFR, there were foreseen joint projects and conferences on priority scientific directions such as nanotechnology, the system of environmental control, and preservation of biodiversity. The SFFR collaborated with the Work Community of Industrial Research Associations «Otto von Guericke» in the field of technologies and innovations. Priority developments of scientific institutions of Ukraine were represented at the different exhibitions in Germany (e.g., «Laser technology forum», Munich).

The direct cooperation between SFFR and DFG started in November 2009, when Letter of Intent on German–Ukrainian Academic Cooperation between DFG and the SFFR was signed. Continuous competition of the joint projects on seven scientific directions with the grant support by each of the sides was announced in July 2010. These scientific directions are:

- Mathematics, mechanics and informatics;
- Physics and astronomy;
- Chemistry;
- Biology and medical sciences;
- Sciences about human being and society;
- Sciences about Earth and environmental problems;
- Scientific background of the perspective technologies.

In most cases, SFFR international projects last two years, but in the case of DFG, some of them have 1-year duration. During three years, nine joint projects have got about 1 million UAH. It is not much especially when one dollar is about 12 UAH, but nevertheless, it means something. According to the principle of SFFR activity—funds have to be used in-state—this amount 940 thousand UAH has been provided to the Ukrainian research groups. DFG, in its turn, financed the German research collaborators. For example, the following joint projects were financed in 2013:

- “Magnetic transformations during mechanical loading of magnetocaloric materials based on Heusler alloys,” Institute of Magnetism of NASU—Hannover University;
- “Picosecond Acoustics for studies of magnetic and laser solid state structures,” V. E. Lashkaryov, Institute of Semiconductor Physics of NASU—Dortmund Technical University;
- “Self-Organization of three-dimensional micro- and nanosystems with narrow distributions of the sizes and shapes of the structural elements,” Sumy State University—Institute of Materials Physics, University of Munster;

- “Monitoring farmland abandonment by multitemporal and multisensoral remote sensing imagery,” Ukrainian National Forestry University—University of Bonn;
- “Empirical complete convergence with applications in statistics,” National Technical University of Ukraine “KPI”—University of Ulm;
- “Reactive wetting at the solid-liquid interface in Au-Sn and Cu-Sn alloys,” Ivan Franko, National University of Lviv—Karlsruhe Institute of Technology;
- “Investigation of structural, mechanical and corrosion state of long-term exploited “hyperboloid Shukhov towers” objects”, Karpenko Physico-Mechanical Institute—Technical University of Munich.

Two projects on this list belong to physics and astronomy research fields, four—to mathematics, mechanics and informatics, and one project represents such scientific direction as sciences about human being and society.

Scientometric Analyses

To identify the research trends and to learn the level of interest of world scientific community to the joint projects of SFFR, we have made a scientometric analysis of publications made on the results of the conducted projects. According to this investigation, we can assume that 16 papers in Ukrainian and international scientific journals and 39 conferences proceedings have been published during the year 2013. Among them, there were eight papers represented in Web of Science database. In total, 25 papers of mentioned projects published by the research teams have been represented in Web of Science database during 2010–2014. In Table 6.1, the list of publications made in scientific journals that has been included in the Web of Science database is presented.

Also, it can be seen from the table there are some papers, which have been published in journals with high impact factor for this research area, such as Physical review B, Optics Express, Applied Physics Letters. In spite of the fact that papers were published only in previous year, they have been already cited several times while the self-citations form just the single percent indexes. The list of the best-cited papers published by research groups performing these joint Ukrainian–German projects is presented in Table 6.2.

In 2014, three new projects were planned to be financed:

- “On route to chemically and topologically regular (nano) diamond,” National Technical University of Ukraine “Kyiv Polytechnic Institute”—Institute of Organic Chemistry, Justus-Liebig-University Gießen;
- “Charge transport in heterostructures based on two-band superconductors and/or ferromagnetic metals,” Institute of Magnetism of NANU and Ministry of Education and Sciences of Ukraine—Friedrich-Schiller-University and Institute for Solid State Physics;

Table 6.1 Articles, published on the base of joint German–Ukrainian projects in journals that have been included in the Web of Science database

Source title	Impact factor 2012	Publication year	Times cited
“Magnetic transformations during mechanical loading of magnetocaloric materials based on Heusler alloys”			
Project head—Kokorin Volodymyr ^a , Institute of Magnetism NASU			
METALLOFIZIKA I NOVEISHIE TEKHNOLOGII ^b	0.109	2013	–
“Picosecond acoustics for studies of magnetic and laser solid state structures”			
Project Head—Glavin Boris, V. E. Lashkaryov Institute of Semiconductor Physics of NASU			
Physical Review B	3.767	2013	4
Optics Express	3.564	2013	1
Applied Physics Letters	3.817	2013	1
“Self-organization of three-dimensional micro- and nanosystems with narrow distributions of the sizes and shapes of the structural elements”			
Project head—Perekrestov Vyacheslav, Sumy State University			
Instruments and Experimental Techniques	0.330	2013	–
Physica B-Condensed Matter	1.327	2013	–
Journal of Porous Materials	1.348	2013	–
“Empirical complete convergence with applications in statistics”			
Project head—Klesov Oleg, National Technical University of Ukraine “KPI”			
Extremes	1.395	2013	–
Journal of Mathematical Analysis and Applications	1.050	2013	–

Source Krasovska O., Andrushchenko V., Velichko I

^aVolodymyr Kokorin takes the 45th place in the TOP-100 Ukrainian scientists according to the SciVerse Scopus (127 publications, 2994 times cited, h-index = 18)

^bJournal “METALLOFIZIKA I NOVEISHIE TEKHNOLOGII” is one of the 17 Ukrainian journals with impact factor

- “Research of instruments and processes for polishing of rails of way and analysis of longevity of rail is after polishing,” National Technical University of Ukraine “Kyiv Polytechnic Institute”—Institute of Instrumental Machines and Factory Production (IWF) of the Technical University of Berlin.

Unfortunately, double reduction of SFFR grant financing took place in 2014 (Fig. 6.1). The level of SFFR grant support is a little bit more than 1 million dollars or 13.6 million UAH in 2014, and, after eliminating grants of the President of Ukraine for young scientists from this amount, we get a little bit more than 8 million UAH for all fundamental projects.

For comparison: Belarusian Republic Fund for Fundamental Research has state support on the level equal to 5 million USD in 2014. At the same time, according to the official data of the State Statistic Service of Ukraine (<http://ukrstat.gov.ua/>) and National Statistical Committee of the Republic of Belarus (<http://belstat.gov.by/>),

Table 6.2 List of best-cited papers

Papers title	Source title	Impact factor	Publication year	Times cited
Self-organization of quasi equilibrium steady-state condensation in accumulative ion-plasma devices	Physics Letters A	1.766	2009	15
The surface tension of liquid aluminum-based alloys	Materials Science and Engineering: A Structural Materials: Properties Microstructure and Processing	2.108	2008	18
Density and atomic volume in liquid Al-Fe and Al-Ni binary alloys	International Journal of Materials Research	0.690	2007	21

Source Krasovska O., Andrushchenko V., Velichko I

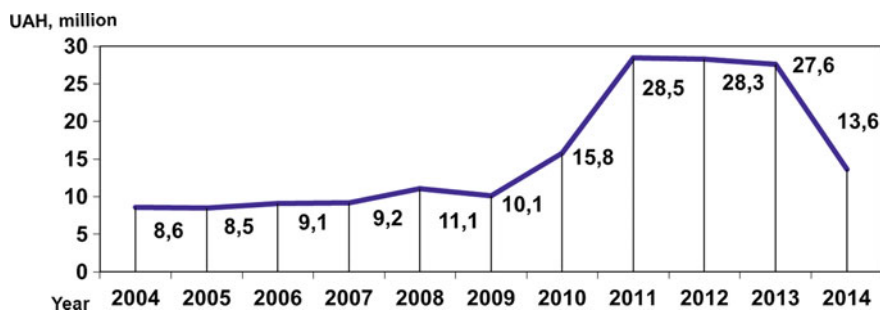


Fig. 6.1 Dynamics of public funding for SFFR projects financing in 2004–2014, UAH million.
Source Krasovska O., Andrushchenko V., Velichko I

there are 482 research organizations in Belarus and 1143 research organizations in Ukraine. There are 18.4 thousand scientists in Belarus and 65.6 thousand of scientists in Ukraine. After this comparison, it becomes evident that the level of SFFR grant support is not fitting with the Ukrainian S&T potential.

Unfortunately, taking into consideration this double reduction in 2014, SFFR has to make a temporary stop in the financing of the number of joint projects including joint ventures with DFG, but we do hope that even to the end of this year the situation will change for the better.

So, among the most urgent Funds needs the following ones could be mentioned:

- Increase of Fund financing;
- Renovation of SFFR's budget line in the State budget, which SFFR lost in 2011, and;

- Situation when competitive projects of SFFR still undergo the public procurement procedure, contrary to the Law of Ukraine “About the Public Procurement” should be changed.

There are two ways to solve this problem:

- (a) Exclusion of competitive projects from the tender procedures, and;
- (b) Rise of the tender bar to the at least 300 hundred UAH point.

Solving these problems is the way of increasing the effectiveness of competition system in the primary research and intensification of international and Ukrainian–German cooperation, in particular. There is a need for further developing multi-lateral cooperation on the international level.

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Chapter 7

Key Tendencies of Scientific and Technological Development in Ukraine and Its International Dimension (Review of Statistical Indicators)



Igor Yegorov

The key elements of the national science and technology (S&T) system of Ukraine were primarily formed during the Soviet Era. In some areas of science and technology, Ukrainian research institutes and design bureaus¹ were leaders in the USSR. This applies in particular for electric welding, new materials, transport aviation, development of specialized software, etc. However, the economic crisis of the 1990s and the disintegration of the Soviet Union brought upon a sharp reduction demand for S&T results from the industrial sector, and entire high-tech industries, such as electronics, disappeared almost entirely.

After the declaration of independence in 1991, the Ukrainian research system remained centralized, with individual regions playing a limited role in policy formulation and implementation. In first years of independence, the governments of Ukraine did not pay adequate attention to research and development (R&D), despite some significant legislative acts being passed in the 1990s and early 2000s. The last important changes have been made recently in the context of euro-integration processes. The law of Ukraine 'On Scientific and Scientific-Technical Activity' was substantially modified. It was approved and passed through Ukrainian Parliament at the end of 2015. Because Ukraine is a unitary state, local budgets are not a primary source for financing R&D. Block grants dominate the system for the allocation of funds devoted to R&D; however, in recent years, more competitive principles of fund distribution have become popular.

¹Design bureaus are special organisations, which are focused on development and science services.

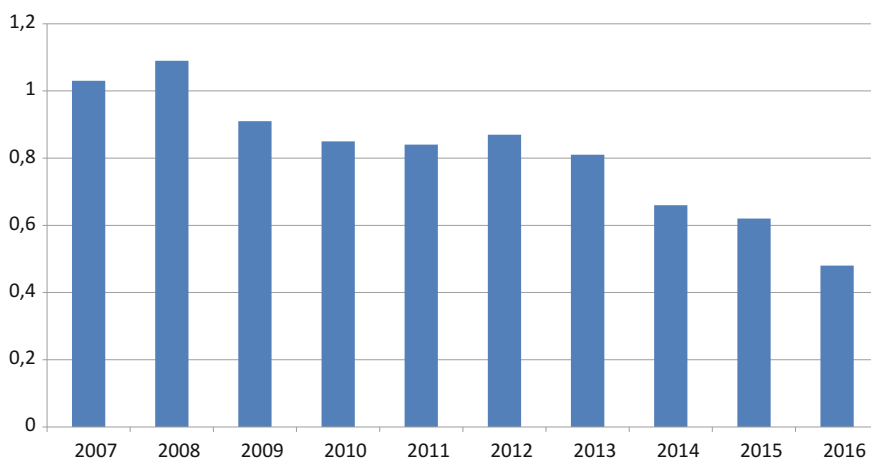
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Analysis of Statistical Data

It is still not easy to compare the development of R&D in Ukraine and other countries. It is true that recently Ukraine has developed a system of statistical indicators, most of which are compatible with OECD standards. However, some standards, for instance, the distribution of specific sectors in official Ukrainian statistics, were introduced only recently, meaning that some data for historical periods are not available. A similar situation is with calculations of the scientific personnel. Ukrainian statisticians are not using data in full-time equivalent, as it is done in the OECD countries (Scientific and Innovation Activities in Ukraine 2017).

However, it is possible to conclude that the indicator values concerning R&D activities (e.g. number of researchers, a total volume of financial resources devoted to R&D in real terms) declined two to fivefold since the beginning of the 1990s. The most significant decrease was observed in the 1990s. Since the early 2000s, the situation has largely stabilized and deteriorated in 2014–2016 again. Financing of R&D sector went down both in terms of percentage of GDP (GERD) (see Picture 7.1).

As for resource indicators, the number of researchers has continued to decline but has levelled off at 1–3% decline per year, while nominal expenses on R&D had even a tendency to grow in 2000–2007 and 2011–2013, after the crises of 2008–2010. However, further decline in number of researchers was observed in 2014–2016. While there is no official data on the number of doctoral students across age categories, the total number of Ph.D. holders and Candidates of Sciences is growing. The number of Candidates of Sciences (Ph.Ds) grew from 59,000 in 2000, to 96,000 in 2015. The number of Doctors of Sciences increased from 10.3 thousand to 15.7 thousand during the same period. However, less than 40% of Doctors



Picture 7.1 Level of Ukrainian GERD in 2007–2016, %

of Science and less than 25% of Candidates of Sciences are involved in R&D as their primary means of work. Most holders of scientific degrees work as lecturers in non-research institutes and universities. At the same time, in 2006–2013, the share of Gross Expenditures on R&D (GERD) declined to less than 1%, with no signs of recovery in sight. Almost all other indicators of R&D performance are declining, including the percentages of Ukrainian publications in international journals and the share of patents in USPTO (Yegorov 2009; Yevtushenko and Osadcha 2013).

The state sector continues to play a paramount role in the funding of R&D in Ukraine. The bulk of this state funding is used for supporting the system of academies of sciences, including National Academy of Sciences of Ukraine. The role of the business sector, regarding both the financing and implementation of R&D, is decreasing. To date, the higher education sector and the private non-profit sector has not played a significant role in the funding of R&D. Development in these areas has exhibited small fluctuations but seems to be declining overall. The higher education sector, regarding research performance, is still extremely dependent on public funding, with shares fluctuating 68–75% over the past decade. However, the role of the higher education sector appears to be growing, although growth rates have not exceeded 7% of funding over the last 20 years. The share of foreign sources of R&D financing is relatively high in Ukraine, although statistics provided by the state excludes information on the distribution of funding according to countries of origin. However, it is known that substantial part of the financing comes from Russia, the USA, the EU and China. In 2006–2007, both the relative and absolute reduction in the volume of foreign R&D financing occurred despite stable economic growth; however, in 2009–2014, the share of foreign-financed R&D activities increased once again to one-quarter of the total R&D expenditures. The private non-profit sector showed no substantial changes with its share well below 1% of total R&D expenditures in recent years.

From examining the statistics, it is evident that the levels of R&D expenditures in Ukraine, both absolute and relative, are substantially lower than in developed EU countries. This is likely because registration with the State Statistical Service (SSS) of Ukraine² is obligatory for all state organizations and business enterprises, while foreign companies conducting research in Ukraine are exempt. This means that the real R&D funding and expenditures in Ukraine are likely higher, with the share of business enterprises and the private non-profit sector underestimated (Yegorov et al. 2010).

Ukraine inherited a relatively well-developed educational system from Soviet times and still preserves several positive features of the Soviet system. However, the quality of education in the technical and natural sciences declined in the 1990s and 2000s. To some extent, this can be explained by the recent economic crisis, and the collapse of whole industries (electronics, precise mechanics and some others), related to military needs. In the mid-2010s, the share of graduates in natural sciences declined to 25%, and technical sciences to 21%, while the number of

²State Committee of Statistics (SCS) before 2011.

graduates in humanities and arts grew to 5%, and in social sciences, and in business and law to 44%. The remaining students fell into the categories of agriculture, health care and related services. No particular policy supporting education in engineering and the natural sciences exists in Ukraine. On the other hand, Ukrainian universities are trying to update their curricula in these disciplines following the international standards. In some leading universities, students receive special stipends for advances in sciences from the state. Private foundations sometimes provide similar stipends. The level of these stipends varies, from approximately €100 to several thousand Euros per year, but the highest level is the exception rather than the norm.

In general, a career in science is not viewed as prestigious. The standard of income in science is much lower than in business sector, especially in the banking and insurance spheres (Vashulenko et al. 2010). The government has no long-term human resource policy in R&D. The existing policy could be defined as 'inertial' rather than targeted, despite the fact that different types of special stipends for scientists have recently been introduced. Also, a growing number of Ukrainian scientists are of pension age. The average age of Doctors of Sciences is 63, while the average age of Candidates of Sciences³ is over 50 (2016). These figures are increasing at a rate of one age-year every three years. This is mainly because the growth in career possibilities for young scientists is limited, particularly since the state permits to combine job preservation with obtaining a full pension in the government sector.

The results of the policy, aimed at attracting talented youth to the R&D sector, remain modest, although the state is trying to stimulate interaction between research and education. Several state stipends for young scientists increased between two-fold and fourfold from 2008 to 2013. State awards for advancements in science have also been growing, showing that the government is trying to support and encourage the most talented scientists within the country. However, the proposed measures are still not adequate to stimulate young scientists to work for Ukrainian science, as the level of salaries available in foreign laboratories remains much higher than in Ukrainian ones.

This is partly because Ukraine has no national schemes aimed at stimulating the mobility of scientists. The stimulation of science immigration is not an issue for the country at the moment, despite the fact that the science sector is in decline in Ukraine, with research conditions that do not meet international standards. While there are modest attempts to establish cooperation among those specialists who left

³Ukraine has inherited the Soviet system of scientific degrees. Candidate of Sciences is the person, who finished his (her) post-graduate education, passed 3–4 special exams, published several articles in scholar journals (usually, 3–10) and defended dissertation in the special meeting of the scientific council on his specialization. This decision of the council has to be approved by the State Certification Commission, which consists of independent experts. Doctor of Sciences has to have a proven contribution to modern science (plus individual book and not less than 20 articles in scholar journals), to defend doctoral thesis and to receive an approval from the State Certification Commission of Ukraine.

the country during the past two decades, the country still cannot provide a corresponding level of salaries and attracting working conditions, making return a frequently unattractive option. Emigration, on the other hand, is a more alarming issue. Existing statistics for scientific emigration in Ukraine do not reflect the real magnitude of the outflow of specialists from the country. According to the official data, only 13 researchers with doctorate and candidate of sciences degrees emigrated from Ukrainian research sector in 2009, 21 in 2010 and approximately 40 in 2016, a stark contrast with the early 1990s, when the number of emigrants reached several hundred persons per year. In recent years, the age of emigrants decreased, as more and more graduates and postgraduate students leave the country. These people are not considered scientists, despite the fact that they often possess substantial intellectual potential. The second problem is with shuttle migration, a more pressing matter than that of 'pure' emigration of researchers, as up to one thousand scientists are involved in it every year. The Ukrainian government has recently introduced new methods of statistical control to reflect this type of migration more adequately. Now, questionnaires administered by the State Service of Statistics include more questions relating to long-term visits abroad. This is crucial for the correct measurement of shuttle migration among Ukrainian scientists.

The state budget plays a crucial role as a source of R&D funding. Parameters of R&D funding had tendency to decline in real terms in 2014–2016, when inflation processes are taken into consideration. Data from recent years show that the level of R&D funding as a proportion of GDP declined to 0.75% in 2012 to 0.48% in 2016, the lowest level ever reached since Ukraine gained independence. R&D expenditures grew in current prices in 2006–2008 and in 2010–2012. However, the real level of spending growth on R&D in pre-crisis years was modest and significantly lower than the overall rate of GDP growth. In 2009 and in 2014–2015, the standard of R&D expenditures declined even in current prices. The state typically uses three key forms of funding for R&D. The first of these is direct funding of R&D organizations. Overall, more than 90% of state funding to the government and higher education sectors is channelled through direct funding. The second way of distributing money is through state R&D and development programs, which are allocated on a competitive basis. Relatively small amounts of money—less than 1% of the state R&D budget—are distributed through such individual grant schemes, or through state-sponsored foundations for support of basic research.

In 2016, up to 25% of R&D funding came from abroad, a substantially larger portion than in 2008 (15.6%), yet on par with figures from 2000 (23.3%). The growth of the share of foreign financing can be explained by two possible factors. First, R&D financing from internal sources tends to contract more substantially than financing from abroad does. The second reason is a quick depreciation of the national currency against the Dollar and the Euro.

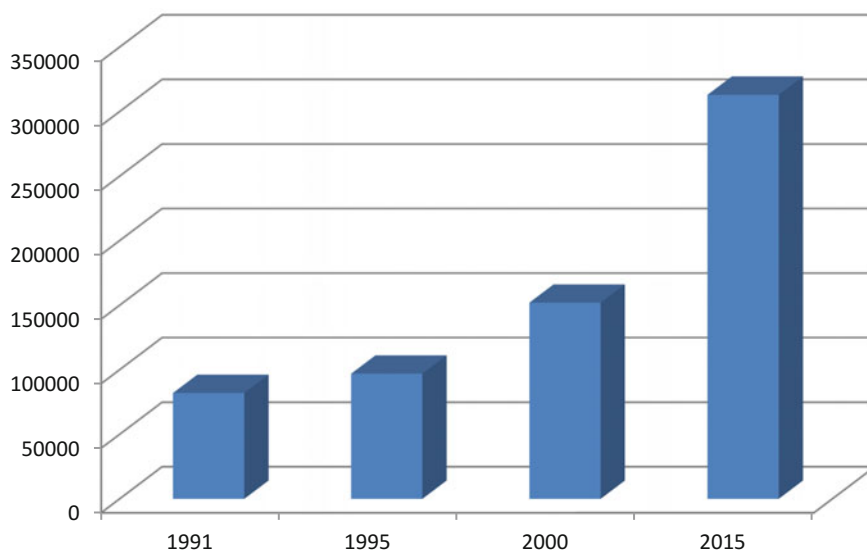
As a result of the general decline of science in the country, Ukraine has a relatively low place in respect to the number of internationally recognized publications (see Table 7.1).

Level of citations calculated with the help of H-index also remains low (see Picture 7.1).

Table 7.1 Key indicators of publication activities of different countries, 1996–2012, Scopus data

Country	Average growth rate for 1996–2012 (%)	Share of country's publications in the world publications (%)	
		2012	1996
USA	3.0	22.09	28.98
China	17.5	16.12	2.51
UK	3.7	6.28	7.28
Germany	4.2	5.89	6.35
South Korea	12.2	2.78	0.87
Brazil	11.8	2.29	0.76
Russia	1.5	1.63	2.77
Iran	26.3	1.62	0.07
Turkey	11.5	1.39	0.49
Poland	6.3	1.31	1.01
Czech Republic	7.6	0.68	0.42
Ukraine	3.0	0.36	0.48

Source Scopus (2013)



Picture 7.2 Number of 'internal' scientific publications in Ukraine, 1991–2015. Source State statistical service of Ukraine, various years

On the other hand, a number of 'internal publications had a strong tendency to growth (see Picture 7.2).

International Dimension of S&T and Innovation Activities

The discrepancy between the tendency of internationalization and the sharp growth of internal publications could be explained by the heritage of the ‘closed Soviet-type system’ and existed practice of stimulating these publications at the expense of international publications for more than two decades.

Although Ukraine took part in Framework Programme 7 (FP7) and Horizon-2020, access to participation in some calls was restricted. This means that, although Ukrainian institutes were members of certain networks and research consortia, the government did not make a contribution to the FP7 budget. In addition, Ukraine had no access to the European Development Fund. Ukraine signed an agreement on association with the EU Horizon-2020 Programme in March, 2015. This opened the way for a more active cooperation with the EU countries in R&D.

The impact of the participation in the EU FPs and Horizon-2020 Programme is positive, as Ukrainian scientists received valuable new experience and knowledge, and they have strengthened their contacts with Western partners. On the other hand, this impact is limited as the number of participants was not high. Cooperation between Ukrainian and EU researchers remains relatively low. Additional support from the Ukrainian government for the promotion of international activities is needed as well as additional links between Ukrainian researchers and their EU counterparts to forge partnerships in future projects. As a non-EU member, Ukraine cannot participate (at least, as a leading partner) in some initiatives. Another problem is that existing internal taxation practices do not support international project implementation, despite there being some clauses in EU–Ukraine agreements on special financial conditions for R&D projects. This creates serious barriers to cooperation.

In 2000–first half of 2010s, Ukraine received between 1 and 2 million dollars from NATO research programmes annually. In the mid-1990s, the EU, Japan, Canada and the USA established special fund entitled the Scientific and Technological Centre of Ukraine (STCU), with an annual financing budget of 10 million USD. The funding was designated especially for scientists involved in military-oriented R&D projects (STCU 2014).

Ukraine has no particular policy aimed at enhancing the mobility of researchers. In recent years, the state has tried to keep young researchers by establishing various stipends and awards, but as mentioned, these measures have not been very effective. In fact, national statistics do not provide data on immigration of researchers, as the majority of experts assume the number of immigrants is insignificant. Several dozen foreign researchers remain in leading Ukrainian universities; however, they tend to be mainly involved in teaching. Other researchers are engaged in think-tank activities, particularly in sociology and economics. No exact data on the number of such researchers have been published.

Conclusions

Statistical data show that currently, science in Ukraine is in a complicated situation. The country requires urgent actions, aimed at the transformation of the research system. Among the major measures are the following:

1. Government could stimulate those economic sectors, which are key customers of the research results;
2. Criteria of evaluation of scientific work have to be in line with international practice (however, some ‘national components’ could be preserved in some way);
3. International programs have to play a greater role in Ukraine in the context of European integration policy, and
4. Ukrainian national programs need further improvement in management, including the creation of the system of independent evaluation with the participation of foreign experts, where it is possible.

In this chapter, I dealt with the analysis of current situation in R&D and innovation sphere in Ukraine. It is important to stress that innovation and R&D systems in Ukraine were ‘internally oriented’, and not all internationally recognized indicators were used in the national statistics. As to the qualitative assessment, it is worth to note, that Ukrainian S&T policy has not changed substantially in recent years. Up to now, the main focus of government policy mix is on direct support of R&D in selected sectors (state-sponsored academies of sciences, some branch institutes and universities) and provision of financing to specific innovation programmes. The gap between the higher education sector and the industry remains substantial, while international cooperation is clearly underdeveloped, despite some positive changes in recent years.

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Chapter 8

Technological Transformations and Their Implications for Higher Education



Petro Smertenko, O. Dimitriev, Lidia Pohekailova and L. Cernyshov

Russian and Soviet economist Kondratieff (1892–1938) in the 1920s discovered the presence of periodical changes in macroeconomics and price cycles of four world leaders in the economy: Germany, Great Britain, France and the USA (Kondratieff 1925, 1984). There are some synonyms of this term in the world literature, namely technological waves, supercycles, great surges, long waves, K-waves or the long economic cycle (Schumpeter 1942; Mensch 1979; Freeman 2001; Goldschmidt et al. 2005; Lvov 1991; Šmihula 2009; Morgan 1991). The duration of the cycle is about 40–60 years.

The economists who adhere to this theory are Austrian-American Joseph Schumpeter (1883–1950), German-American Gerhard Mensch (b.1937), Englishman Christopher Freeman (1921–2010), Russian Dmytriy Lvov (1930–2007), German Andreas J. W. Goldschmidt (b.1954), Slovak Daniel Šmihula (b.1972) and others. Technological wave is a set of technologies that are characterized by a certain level of production and development (see Table 8.1). In the frame of technological wave, the self-contained macroproduction cycle is realized. It includes the way of power generation, all stages of processing and production of a set of final products, and it meets certain requirements of public consumption as well as professional education of staff.

The 6th Technological Wave

The 6th cycle started formally in 2015 and is mainly concentrated on the following technologies: nanotechnologies, biotechnologies, information technologies and cognitive technologies (Bainbridge and Roco 2005). The historical point of view

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Table 8.1 Technological waves with character features

Technological wave	Years	Title	Key technologies and applications	Main features
1	1770–1830	The industrial revolution	Textile, textile machinery, cotton-based technology, cast-iron smelting, water engine, canal building	Water-powered mechanization of industry
2	1830–1880	The age of steam and railway	Ferrous metallurgy, machine tool and coal-mining industry, transport, steam engine, steamship and railway building	Steam powered mechanization of industry
3	1880–1930	The age of steel and heavy mechanical engineering	Steel and rolled metal production, electrical and heavy engineering industry, transmission facilities, inorganic chemistry, internal combustion engine, automobiles, the highway system, mass production, beginning of motorized agricultural mechanization, telephony, radio Big firms, cartels, syndicates, trusts have shown up. Monopolies were dominated. The concentration of bank and finance capital have been started	Electrification of industry, transport and buildings
4	1930–1975	The age of oil, electricity, cars and mass production	Non-ferrous metallurgy, motor-car and tractor construction, oil industry, consumer durable, synthetic materials, organic chemistry, fertilizers, television and electronics, diffusion of commercial aviation and air conditioning, beginning of nuclear utilities Oligopoly competition was dominating at the market. Transnational and international companies have arisen, they have made direct investment in the market of various countries	Motorization of transport, oil chemistry

(continued)

Table 8.1 (continued)

Technological wave	Years	Title	Key technologies and applications	Main features
5	1975–2015	The age of informatics and telecommunications	Electronic industry, soft- and hardware, optical fibre engineering, the gas industry, telecommunication, robotics, information services The transition from separate firms to the single network of big and small enterprises combined by the Internet and put into practice close collaboration in the field of technologies, quality testing of production, planning of innovations	Computerization of economy
6	2015–2050	The age of critical technologies	Nano-, bio-, info- and cogno-technologies, cell and gene engineering, alternative and renewable energy, knowledge-based economy	NBIC convergence

shows that the countries or companies which have chosen the promising direction of development related to modern tendencies have taken advantage of future business (see Official sites of Sigma-Aldrich and Apple Inc.; Song 2003). For example, Sigma-Aldrich Corporation is a life science and high technology company with over 9600 employees and operations in 40 countries. Its chemical and biochemical products and kits are used in scientific research of biotechnology, pharmaceutical development, the diagnosis of disease, and as the key components in high technology manufacturing (see Official site of Sigma-Aldrich). Another example is Apple Inc., which is one of American Multinational Corporation that designs, develops and sells computer electronics consumer electronics, computer software, online services and personal computers (see Official site of Apple Inc.). Apple was founded on 1 April 1976, and Fortune magazine named Apple as the most-admired company in the USA in 2008, and in the world from 2008 to 2012 (see The World's Most Admired Companies 2012). Another example concerns South Korea (Song 2003). Starting from the gross domestic product per capita of about \$79 in 1960, South Korea has already achieved approximately 30 per cent of the annual gross domestic product (GDP) in 1986. Figovsky (2011) explains this phenomenon in the following way: to overcome the gap between 3rd and 5th technological waves, South Korea had the biggest number of physicists in the world per capita in Seoul in the 1990s (Figovsky 2011).

That is why it is necessary to follow current vectors in knowledge and technologies, taking into account the results of accurate analysis of science, education, business and economics (see Horizon 2020; Official site of Venture Planning Group; Bainbridge and Roco 2005). The motivation of this article is to give brief information about technological waves, to pay attention to real-world tendencies in education and science and to emphasize urgent steps to be done in the modern environment for persons, institutions and states.

Challenges of the 6th Technological Wave

The main features and challenges of the 6th technological wave coming have been described by Bainbridge and Roco (2005). In Fig. 8.2, the main technologies are shown as well as the fundamental disciplines that are bases for this wave. “NBIC” are rapidly taking place today among nanotechnology, biotechnology, information technology and cognitive science. NBIC as converging technologies have the potential impacts on economics, stimulate and steer innovations. Actually, NBIC are the emerging technologies.

Challenges of new technologies in 6th wave are the following (Bainbridge and Roco 2005):

1. Development of nano-, bio-, info- and cogno-technologies;
2. Convergence of NBIC technologies;
3. Formation of staff with new mentality;
4. Interdisciplinary education;
5. New equipment;
6. Novel approaches to metrology;
7. Biosafety and ecological impact; and
8. New principles of energy production.

One of the prognoses for the nearest future is the following: comfortable, wearable sensors and computers will enhance every person’s awareness of his or her health condition, environment, chemical pollutants, potential hazards, and will provide information of interest to local businesses, natural resources, etc.

Technology in Ukrainian Society

For last decade, the question how and what we have to develop is under hard discussion (e.g. Wonglimpiyarat 2005; Wilenius and Kurki 2012). The main slogan was formulated by Wonglimpiyarat (2005) as following: the key to success would lie in how each country could find the right application to focus on to survive through international competitions. From the analysis of the K-waves, Forrest

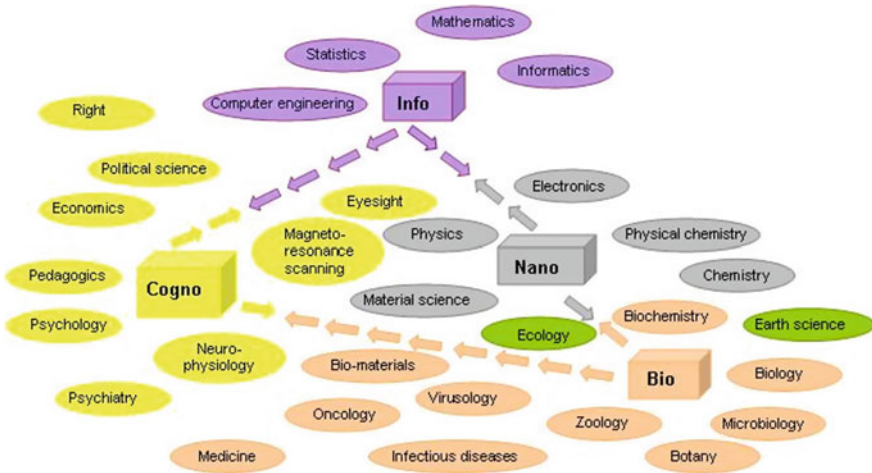


Fig. 8.1 Main technologies of the 6th technological wave and its surrounding

(1981) determined five character key factors that influence the future development of society: (1) movement of people between sectors; (2) the long time span to change the production capacity of capital areas; (3) the way capital sectors provide their input capital as a factor of production; (4) the need to develop excess capacity to catch up the difference demand; and (5) the psychological and speculative forces of expectation that can cause overexpansion in the capital sectors. At the same time, tasks for Ukrainian society could be separated into two spheres: education and R&D (Fig. 8.1).

The world trend in education is the creation of NBIC faculties for the preparation of persons with an interdisciplinary understanding of new technologies. According to the interim report of the Finnish project “The 6th wave and systemic Innovations for Finland: Success Factor for the Years 2010–2050 (6th Wave)” (Wilenius and Kurki 2012) in the long-term development of societies, the most significant factor predicting a success will be the education system that encompasses all members of society. And, the authors of the report appointed two driving forces for the next wave:

1. E-learning, which has already been a hot topic for a few decades, but now the technology, societal needs, attitudes and structures finally seem to align in this regard; and
2. International migration of young generation to get an education due to the lack of traditional outlet for it, as well as institutions, which can provide high-quality education.

At the first time, presently, technological development enables to meet the above two requirements.

In R&D, the spectrum of directions is wider and includes bilateral and multi-disciplinary cooperation and collaboration for the creation of entirely new approaches and technologies. Fortunately, Ukraine is strong in material science (Smertenko et al. 2014) and has known well enough in the world achievements in bioengineering, informatics and even in the creation of training complexes which are concerning to cogno-technologies.

The 6th wave demands new tasks for material science. They have to be based on:

1. “Green” technologies;
2. “Smart” technologies;
3. “Cheap” technologies; and
4. “Energy-saving” technologies.

Nanotechnology is characterized by the manipulation of objects at the molecular level. Biotechnology will use living organisms in the production process. Such approaches will radically change our understanding of production in industry and treatment in the medical sphere. There will be a greater emphasis on various alternatives to current production processes that will be less ecologically harmful.

Partial tasks for materials science are the following:

1. Production of constructional materials with predetermined properties;
2. Nanomaterials and nano-structural coating; and
3. Materials for space and green energy.

Nanotechnologies will be applied to get more robust, flexible and durable materials. New materials have to increase the efficiency in all existing technologies including space technologies.

To follow the idea of convergence, it is necessary to form consortia from universities, research institutes, SMEs and larger firms. The centres of technology transfer have to be a very important chain of such consortia. These consortia can and have to be a part of clusters, technology platforms and big international projects. Financial support has to be provided at least partly by the government. And the government has to promote the bottom-up approach in leading technologies for the 6th wave because the human potential is the main engine of innovations.

As an example of nano- and biotechnologies convergence, the formation of silver nanoparticles from plant extracts (Pirko et al. 2012) and self-organized organic films on a patterned silicon substrate (Gorbach et al. 2011) is shown in Figs. 8.2 and 8.3, respectively.

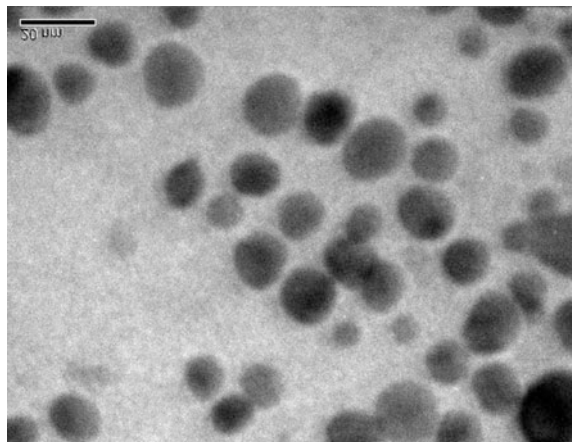


Fig. 8.2 Transmission electron microscopy image of silver nanoparticles from plant extract. *Source* Smertenko (2014)

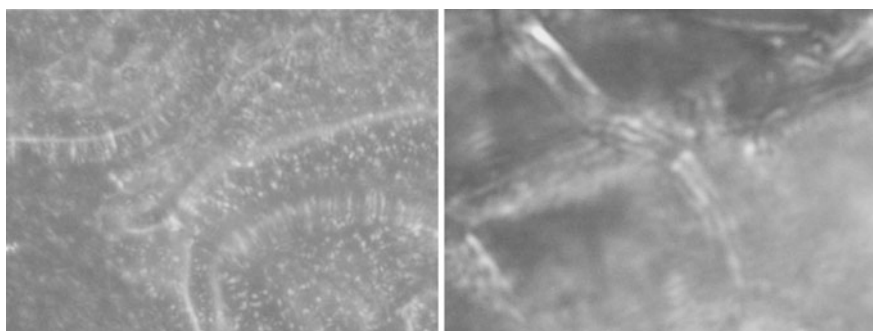


Fig. 8.3 Optical image of self-organized organic films on silicon substrate. *Source* Smertenko (2014)

Conclusion

1. Understanding of global changes in economics for a long time can help for priority formation of each country;
2. We have to change ourselves, i.e. our knowledge, our understanding, our mentality and enhance our skills;
3. One of the perspective directions of nanotechnologies in Ukraine can be development of constructional material for innovations in all industrial branches; and
4. One more direction can be related to investigation and production of multi-functional materials like self-organized, self-reproducing or biologically compatible ones.

Afterword

1. What is the next? This is a usual question for researchers and creative persons. The 7th technological wave titled “Age of socio-humanitarian technologies” will be coming after 2050 with new technologies in sociology, psychology, political sciences and economy (Šmihula 2010). As a rule, the next technological wave is formed in the depth of previous or even before the previous technological wave. For example, DNA sequencer, the device for determination of the order of the four bases: G (guanine), C (cytosine), A (adenine) and T (thymine). This device is one of the main instruments for biotechnologies. It was proposed in 1973, actually 42 years before starting of 6th technological wave (Gilbert and Maxam 1973). Now we can see the rise of cogno-technologies, which will dominate in the 7th technological wave. The recent analysis of last events, such as Brexit and presidency election in the USA, shows the application of newest technologies for influence on lots of people by Big Data technology (Grassegger and Krogerus 2016).
2. Each of technological wave is accompanied by a certain source of energy, for example coal (2nd wave), electricity (3rd wave), oil and gas (4th wave) and nuclear energy (5th wave). The renewable energy is characteristic for the 6th wave. It is necessary to note that here the energy-to-energy transformation has to be the central principle to obtain the power contrary to the previous principle matter-to-energy-to-matter transformation. Here we have always the problems with waste. It is possible to mention such approaches as extra energy (energy of space) and energy from the vacuum (Cole and Puthoff 1993), or cool nuclear synthesis (generator Rossi) (Rossi 2009).

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Chapter 9

Building the (Higher)Education Stakeholder: The Realities of Economics in Higher Education



Geanina Nae and Virgil Nae

With the development of the human capital theory in the 1960s, education policy and its impact on societal advancement became an integral part of the economic policy. Under the assumptions that education leads to increased individual productivity, that earnings are a proxy for productivity (i.e., the more productive you are, the more you will earn, the more you earn, the more preferences you will satisfy and as such enhance your well-being), and that raising average and total incomes generate economic growth, education continues to translate into both a good individual investment and a key element of societal advancement.

In this context, it is no wonder that not only nation-states, but also international organisations with a mandate on education like the World Bank, OECD, and the EU, are untiring advocates of the positive impact education has on economic growth, orienting policy toward enhancing “human capital” and a “knowledge society.”¹ OECD main Webpage on education plainly states that

both individuals and countries benefit from education. For individuals, the potential benefits lie in the general quality of life and in the economic returns of sustained, satisfying employment. For countries, the potential benefits lie in economic growth and the development of shared values that underpin social cohesion.

Similarly, from the European Strategic Framework on Education and Training (ET 2020), we understand that while each EU member country is responsible for its own education and training systems, the EU policy is designed to support national action and help address common challenges, such as aging societies, skills deficits in the workforce, technological developments, and global competition.

¹OECD (1996, 2015, 2016), European Commission (2012a, b, 2016), European Council (2009, 2013, 2015) and World Bank Development Report (2018).

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Or, in the words of the World Bank Group President Jim Yong Kim: “Delivered well, education—and the human capital it creates—has many benefits for economies, and for societies as a whole. For individuals, education promotes employment, earnings, and health. It raises pride and opens new horizons. For societies, it drives long-term economic growth, reduces poverty, spurs innovation, strengthens institutions, and fosters social cohesion” (Learning to Realize Education’s Promise Report 2018).

The significance of these discourses lies not only in the strong, positive, neoliberal terms used to portray this new tendency in education policy (Olssen and Peters 2005; Nóvoa 2013), but also in the proliferation of the institutional support generated in order to implement them (Pereyra et al. 2011; Rawolle et al. 2016). An illustration in this sense would be the emergence of new “expert” categories like education/research investment consultant, quality assurance officer, teaching quality assessors, staff development trainer, to name a few, mostly with the redeeming role of “tutoring individuals in the art of self-improvement and steer them towards the desired norm” (Shore and Wright 2000, p. 63). As Foucault (1972) explained almost 50 years ago, discourses are practices, which systematically form the object of which they speak. This definition indicates that it is not only what is said that counts as discourse, but also the practices by which statements are made possible. If we consider for example students’ evaluation forms of university courses, the ranking system of universities, the predefined structures of “successful” research projects and their evaluation criteria or the Global Venture Capital and Private Equity Country Attractiveness Index (Antoniuk 2018) underpinning investment decisions, we can understand how in their materiality these documents crystalize a particular practice continuously re/un-confirmed in the different actors’ undertakings, an expression of the bidirectional dynamics between the social “order” scaffolding the organization of every (higher) education institution and of the resistance of different actors to it. In other words, discourses about education take part in creating and (un)sustaining the object of their practice, which in return maintain and/or generate new discourses about education. Within this context, education is no longer merely a state affair, nor exclusively “national.” Rather, constructed through coordinated activities of actors involved in the directing funding, provision, ownership, and regulation of education (Robertson and Dale 2016), it becomes part of the economic investment domain.

Discourses and practices favoring the development of a knowledgeable, skilled labor force, and technological development answering the need for enhanced global competition catalyzed also a shift from education for the elite to education for the masses. Such transition did not only have huge cost implications, but also outstripped the capacity of the market to absorb the exponential increase in “qualified output” from higher education and generated a sustained effort to solve the problem by differentiating on quality criteria, slowly marking a reverse trend toward the rebirth of elite education.

Higher Education as Commodity

There seems to be a persistence of the positivist idea that despite our cognitive limitations facing the complexity of the environments we are part of, there must be a formalized best practice able to optimize decision-making toward attaining social welfare, economic growth, and social cohesion. Under the arguments that a market-oriented education (i) frees universities from unequitable admission number restrictions, (ii) fosters a more diverse sector and offers applicants more choice, (iii) drives up quality by competition on price and delivered value, education is seen as a route out of poverty, a pillar supporting the development of human capital in a knowledge economy against global challenges and toward a more just society.

Summative assessments reflecting OECD's "Education at a glance," the PISA programs defining what students should know, setting benchmarks and best practices, and developing tests able to assess if what was initially defined was learned, alongside homogenizing initiatives like Erasmus or Bologna Process oriented toward the internationalization of knowledge, managed to set their guidelines as inspiration and/or aspiration for many countries outside European borders, transforming higher education in an export product; centuries after the European nations through their imperial conquest imposed their education system on foreign shores, the new European model as an export product is beginning to re-emerge as a strong influence on education systems around the world, next to its US counterpart.

With the client of the provided education services portrayed as investor in his or her own education, higher education (the education market) becomes the place offering positional goods for future opportunities of reaping high financial rewards and/or status. Having the figure of an informed, rational consumer at the heart of such a market-based model, in rhythms of caveat emptor, from the moment of choosing a university, to graduation and beyond, the challenges of the high education client revolve around "making the right choice," embracing or resisting the existing education services on the market and as such contributing to their maintenance or to the emergence of new ones.

Competing to become the students' "right choice," facing substantially decreased public funding as response to increasing public sector deficit,² universities opened the door to private capital and entered the race for prestige which became a symbolic proxy for quality, trading their focus on the creation of knowledge for a share in the knowledge economy market, a place in the "top ten" ranking system. Nonetheless, as any positional good is as valuable as its scarcity, by expending in a business fashion driven by profit and market share, education providers started to learn the hard lesson of inflation working in their detriment. While the powerful old elite education institutions sustained by their reputation continued to fortify their position on the market and to influence resources allocation, by encouraging a level playing field for private providers affording to

²The public sector deficit translates the difference between the annual income and expenditure.

enter the market at loss in order to capture the shares of their less significant competitors, many less relevant universities became unviable.

However, resisting the existing education services based on market mentality, there seems to be no shortage of voices arguing against fixation on analytics (Callinicos 2006; Van der Ven 2007; McIlwain 2010; Corbyn 2009; Couee 2013; Baerveldt and Cresswell 2014; Diederich and Hampel 2014; Kohn 2014). To give few examples, Diederich and Hampel (2014) as well as Kohn (2014) argue that summative assessments replace learning with conformity to authority. On a similar note, Valsiner (2008) explains that “education does not “produce”—but sets up conditions where the developing person becomes “open” for innovation”, [that] the value of education lies not in the immediate knowledge acquired [and] education is oriented to the *vertical transfer* of mastery of specifics in the schooling context—through processes of abstractive generalization and its potential re-contextualizations in always new task settings. (pp. 136, 144). Arguing against economic and cultural standards assessing “improvement” and their patronizing cultural imperialism, Gidley (2012) describes how “a plethora of private providers, social movements, niche research institutes, open source resources, edutainment and, of course, the ubiquitous information kaleidoscope of the worldwide web, make it increasingly difficult for the former bastions of knowledge production and dissemination— formal educational institutions to compete for “market-share” and optimistically argues that the time will come when “teachers will not be primarily childminders, researchers will not expect to be primarily fundraisers, and university courses will be oriented more towards the whole development of the students, rather than pointing them towards jobs that will no longer exist” (Gidley 2013, p. 412).

Marginson (2004) claims that “the current transnational markets in higher education are structured as a segmented hierarchy reflecting a dominance-subordination relation between the developed and the developing nations, between English and non-English language universities, and between the hegemonic power of the United States in the world of higher education and higher education in the rest of the world” (p. 218).

With more money directed toward developing ever closer ties with business, Rose (2005) fears about the temptation of many researchers to embrace marketable applications and the potential destructive effects of academic competition: “I have never felt so seriously competitive...As patenting has become so common, as industry has moved into the campuses, it is competition, not cooperation, which is at a premium. Even within the same lab, there can be Chinese walls between researchers funded by different sponsors. We no longer speak openly about our most recent work at scientific conferences, because to do so would give our colleague-competitors a head start.”

Criticizing the neoliberal credo that a homogeneous field of producers in which inherited status recedes and individual performance within a context of competition are able to ensure “commonwealth,” Neave (2005a, b) argues that higher education became an arena of reconciling Adam Smith with Thomas Hobbes. Contrasting Adam Smith’s understanding of competition as driving form of human society and individual initiative with Hobbes’s perception of the same concept as center of

mayhem and civil strife, Guy Neave invites to reflection on the risk of “further weakening of social cohesion by utterly embracing the unpredictable acts of Mr Smith’s more ardent pupils who in their organized expression may just as well be presented as an alternative Leviathan but dressed in corporate clothing (p. 11)”.

Higher Education as Value

Berry Bozeman, a multiple awarded researcher for his work on public administration, defines values as “a complex and broad based assessment of an object or set of objects (where the objects may be concrete, psychological, socially constructed, or a combination of all three) characterized by both cognitive and emotive elements, arrived at after some deliberation, and, because a value is part of the individual’s definition of self, it is not easily changed and it has the potential to elicit action” (2007, 117).

After Moore’s (1995) introduction of the “public value” concept in public administration as a response to the discontent with the cost and benefits yardstick of performance in public sector, its ambiguous nature allowed it to become all things to all people and continued to fuel its popularity (Rhodes and Wanna 2007), penetrating also education policy. Although with little consideration of how the “public” is more than an aggregation of individual consumer interests (Benington and Moore 2011, p. 10) or how it is continuously re-created within a heavily-contested space where competing interests, values and ideologies collide (Dewey 1927), public value appears to call for more rounded accountability of universities in face of their stakeholders as well as their political masters, for public legitimacy, a “generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions” (Suchman 1995, p. 574).

Defending public education, different voices argue that ultimately universities are not owned by private individuals but by the “public” and as such only public education can have the best public interest at heart and offer value to the public (In Defence of Public Higher Education 2016). Along the same line, Ford (2002) portrays the modern university as participating in the breakdown of human communities and the destruction of the natural world, through its adoption of the dominant economic paradigm, impoverishing rather than enhancing the world.

Arguing for closer ties with the public, Alistair Jarvis (2017), the newly appointed Chief Executive of Universities UK (UUK), the organization which represents 136 universities in England, Wales, Scotland, and Northern Ireland underlines the need of universities “to be more than ivory towers, to deliver value to communities beyond the campus boundary, [to] more effectively demonstrate public value and engage with diverse communities.”

Similarly, Jouke de Vries (2017), Professor of Governance and public policy at the University of Groningen in the Netherlands in one of his interviews for the

University World News suggests a more holistic governance approach to higher education based on “confidence governance,” or “public value.”

In this new key, in an effort to maintain or gain legitimacy, the university’s ability to perform becomes a multifaceted phenomenon around the various interests of the education stakeholders, the public. Measuring performance in financial terms becomes less relevant, and other more “qualitative” indicators like innovation, well-being, social justice, social cohesion, are called for as well.

The Private–Public Affair

Regardless of how performance is defined, in an era of tight public budgets, it is not surprising that to bring private sector’s skills and control into higher education and to tap into private money was fathomed to represent the new panacea for improved efficiency and financial capacity.

Attracting less controversy than privatization, attempting to recast the tension between the efficient and creative private sector and the bloated, stagnant public one, new management techniques like New Public Management,³ private equity financing⁴ and public–private partnerships (PPPs)⁵ for ancillary services (procurement of facilities, administrative software solutions, distance learning technologies, marketing and student recruitment) were imagined to support countries meet their goals of investment in education.

But what are the implications of such forms of mixed governance centered around both, shareholders and stakeholders value? From a private organization perspective, as the economist Milton Friedman (1970) notoriously suggested, the sole and only social responsibility of a business firm is to make a profit, but to do that within the confines of the law. This also underpins the concept of shareholder value, under the argument that businesses should not engage themselves with any other causes, how noble these might be, because this means that managers are

³New Public Management (NPM) translates a governance system that emphasizes external guidance in the form of semi-external university councils, competition for resources, and hierarchical control, while manifesting a low level of direct regulation (state control) and reduced powers of the individual professors (Osborne and McLaughlin 2002; De Boer et al. 2007).

⁴Private equity is a generic term used to identify a family of alternative investment methods, with the source of investment capital being from high-net-worth individuals and institutions for the purpose of investing and acquiring equity ownership in companies. Partners at private-equity firms raise funds and manage these funds to yield favorable returns for their shareholder clients, typically with an investment horizon between four and seven years.

⁵According to the World Bank, public–private partnerships (PPPs) are a mechanism for government to procure and implement public infrastructure and/or services using the resources and expertise of the private sector. PPPs combine the skills and resources of both the public and private sectors through sharing of risks and responsibilities. This enables governments to benefit from the expertise of the private sector and allows them to focus instead on policy, planning, and regulation by delegating day-to-day operations.

adding costs to the operations of the firm at the expense of the firm's profit margin, that is, in the detriment of shareholders.

Ultimately, if money needs to be spent on good causes, it should be left to the shareholders to decide what they want to spend their money on, otherwise, for presumptive unwanted side effects affecting other stakeholders or society as a whole, government should legislate against it. Consequently, to create shareholder value, a firm has to primarily deal only with those stakeholders who negatively affect the firm's profit margin.

On the public organisation side of the story, under the argument that shareholders are nothing but one category of stakeholders and the firm has a moral obligation to take public interests into account (Freeman 1984, 1994; Freeman and Reed 1983), performance becomes related to the university's ability to meet the interest of the public. Based on such contradictions, an increasing body of literature started arguing against these models of private sector involvement in education (Du Gay 2000; Pollock et al. 2002; Whitfield 2010) stating that more educational choices actually spread economic segregation, that both private equity and venture capital investments in education lead to poorer students being left behind in the deteriorating non-elite higher education institutions, that PPPs forms of procurement are actually more expensive comparative with direct government investment (Pollock Pollock and Leys 2004), and that NPM aggressively pushes forward technical efficiency in a form of central control which, in the words of Ole Petter Otterson, the rector of the University of Oslo, "negates the very nature of creative thinking and scientific progress" (Myklebust 2017).

Furthermore, this criticism also catalyzed the emergence of a new "middle way" approach in the form of Joint Ventures (JV) in education. Such joint ventures are often praised for provision of flexibility, risk sharing, and maintenance of partners' own identity and described as carrying the potential for attracting world-class students, researchers, and academics through the increased reputation of the partner institutions, leading to mutual development of less powerful institutions, attracting funding from industry and inspiring business to sponsor students and various endowments, generating income from research findings (patents), securing work placement for students and consultancy services. It is also claimed that by becoming aware of the need for an international presence, students are putting pressure on their HEIs, demanding for international experience, which will further increase competition and quality. Either through joint education programs or establishing joint institutions with or without legal entity status,⁶ partnering with a fellow university through this model emphasizing cooperation promised to combine the

⁶A joint education program is the least capital intensive and integrated method for a university to enter a foreign education market, usually by providing teaching courses and materials accreditation; Joint institutions without legal status, also known as a "campus-to-campus" model, involve establishment of branch campuses; Joint ventures with legal entity status are the most capital-intensive forms requiring establishing a separate legal entity for the joint institution, at the same time conferring also greater autonomy over its academic content.

best capabilities of various partners without ceding control over the academic programs.

It is interesting to notice, however, that there is no Rosetta Stone when it comes to defining collaboration in Higher Education. If we take the example of China after opening its HE sector to foreign investment,⁷ while representing one the “hottest” markets for foreign institutions attempting to expand their operations abroad, in the case of joint venture institutions without legal person status, the Chinese partner is solely responsible for signing all legally binding agreements on the joint institution’s behalf, thus providing a status of *primus inter pares*. As for the JVs with legal status (establishing a new Chinese university), the new entity is restricted to have Chinese financing, a Chinese president and a Chinese-majority boards, the contribution of the foreign partner remaining limited to intellectual property input. In return, this begs the question if the interest of foreign universities in opening JVs in China is based on the legal and operational attractiveness of the model, or it is simply a result of having access to a very “lucrative” market. In a sense, as any other collaborative agreement independent of its form, within the market mentality and the correspondent financial and assessment instruments able to measure what is worth investing in (Return on Investment in Education), also JVs raise the same questions related to control, autonomy, and accountability.

Defining What Is Worth Investing in

“What is investing if it is not the act of seeking value at least sufficient to justify the amount paid?” says Warren Buffet,⁸ the “Oracle of Omaha,” one of the most successful investors of all times, as defined by Forbes (10/24/2017). In exploring the value of education investment, it is important to remember that, while omnipresent, the “value” attributed to it is socially and historically situated. For example, in her analysis on the historical record of EU Cooperation in Higher Education, Anne Corbett (2012) shows that whereas the 1970s were marked by an effort to support European Integration, in the 1980s the goals of academic cooperation were oriented toward the completion of the single market, only to shift focus again few years later around sustaining the development of a knowledge economy as a response to the turning point generated by the latest economic crisis and the rising distrust in multilateralism and neoliberalism. With the challenges of our time further fine-tuned in terms of poverty, social inequality, the dramatic rise of xenophobic nationalism, skills deficit in the workforce and global competition, the Bologna principles are reformulated to reflect “academic and institutional autonomy rather than academic freedom, accountability rather than social responsibility, equity,

⁷According to the Regulations of the PRC on sino-foreign investments and the National Plan for Medium and Long-Term Education Reform and Development 2010–2020.

⁸Warren Buffett: 1992 Letter to Berkshire Hathaway Shareholders.

rather than equality of opportunity, participation of stakeholders rather than political representation” (Corbett 2012, p. 53). Interestingly enough, in such context, often depicted as “detached” from society’s “real” problems, somehow paradoxically universities are still expected to provide a silver bullet solution.

According to George Psacharopoulos, one of the main contributors to the development of the economics of education and consultant to European Commission, European Investment Bank, UNESCO, and OECD, the returns of education depend on the question asked, e.g., the efficiency of public spending in education, the individual or social benefits of education:

Private returns are based on the costs and benefits of education, as those are realized by the individual student, i.e. how much he/she actually pays out of pocket to attend a higher education institution, relative to what he/she gets back, after taxes, in terms of increased earnings, relative to a control group of secondary school graduates who did not pursue tertiary education studies. Social returns are based on the costs and benefits of education, as those are realized by the state or society as a whole. Social rates of return should be based on productivity differentials, rather than earnings. They should also include external effects of education, e.g. a higher education graduate spilling benefits⁹ to others by means of being more educated. (Psacharopoulos 2014, p. 121)

The problem with the ROI in HE is many fold. First, if we consider the “social return” criterion, we can see that the concept is ambiguous, a bit of all things to all people and as such enthusiastically embraced by education policy makers. Adding to the equation the other suggested qualitative indicators like well-being, social justice, social cohesion, innovation or entrepreneurship, benefiting the public or encompassed in “public value” as an umbrella term, we can see that these normative criteria continue to be hunted for assessment with the same old positivist yardstick which in its dogmatic reduction of human experience to calculation is disregarding the sociocultural aspects of the individual.

Comparing with healthcare financing (e.g., Casemix¹⁰ or National Health Services¹¹), we can easily notice for example how the clinical problem, be it the cause or the treatment, it is the only element under focus, the system failing to take into account the diversity of illness experience or how illness can be based on multiple conditions. Similarly, in higher education, the expected outcome (measurable skills, knowledge, innovation, public value, etc.) and how to assess it becomes the only issue, with no attention given to the various sociological and

⁹A spillover benefit or externality is an effect of one agent’s behavior on the welfare of another agent without an agreed compensation between them; Heyne et al. (2014) words, a positive externality is the unintended benefit enjoyed by a third party to an exchange”.

¹⁰Casemix is a system used in healthcare which measures hospital performance by assigning an economic value to a specified number of diagnostic categories; as a result, the hospitals are paid according to the number and type of patient treatments provided (Collyer and White 1997).

¹¹National Health Service (NHS) represents a form of managed competition introduced in the UK which separates the purchaser of health care (District Health Authorities) from the providers (hospitals). Through this segregation, the District Health Authorities responsible for the health care of a given population buy health care services from both private and public hospitals which are forced to compete for contracts (Giaino 1995).

cultural factors at work in the individual experience of education or to how the process of education itself molds and it is molded by the complex structures created to coordinate its activities.

Second, referring to economic “benefits,” measuring the private returns as explained by Psacharopoulos, economists and not only think that they have a good idea of what is worth investing in. Indeed, considering the potential high variations in income throughout one’s life, based on factors ranging from oscillations of labor market, to change in personal preference regarding one’s career or the unequal pay scale of the same profession between different geographical settings, such data are misleading. To give an example, what happens to this ROI formula if after long years invested in medical education I decide to become a medical doctor in a remote Indian village or a teacher in a Tibetan primary school? Moreover, there is a tendency to overlook the fact that in the world of corporate finance from where it was adopted, ROI represents a forward-looking calculation and not an after the fact justification of investment.

Third, related to investment in research, beyond the difficulties represented by the heterogeneous inputs and outputs across institutions and systems of most HE research institutions, the long-term impact of a grant-funded business venture for example depends on multiple factors and cannot be assessed through a linear model. Additionally, as McIlwain (2010) also points out, it is impossible to anticipate the time needed for the benefits of such project to take accrue (p. 684), not to mention that many important discoveries with huge economic impact like for example antibiotics or the magnetic resonance were both serendipitous and not “profitable” for many years (Corbyn 2009).

Fourth, turning to the higher education graduate spilling benefits, following the path set by Plato and Aristotle, the problem derives from an essentialist understanding of the student as detached from its own goals and assessments of his or her education process, a perspective which seems to continue hunting academia. In this scenario, to enjoy the “benefits” of one’s investment in education, the person must embrace a prescribed model and meet externally imposed quantifiable standards. Emphasizing the mutual role of participation, Daniels (2006) for example argues that “participation *in* social practices, including participation *in* discourse, is the biggest bootstrapping enterprise human beings engage in: speaking is necessary for learning to speak: engaging with contexts is necessary for recognizing and dealing with contexts” (p. 47). In this sense I would say, at best ROI can assess the student’s participation *in* education according to the predefined metrics, but not the way that the years spent in the higher education context *participate in the student*. Moreover, even imagining a perfect, ideal educational intervention able to generate the most valuable “outcome” for the student, it is worth remembering that in fact, the “outcome” is often ambivalent or subversive, based on the students’ resistance (Poddiakov 2001).

Furthermore, continuing to define what is worth investing in mainly in terms of necessary skills and knowledge meant to improve productivity which in return offers to the great majority of people more free time, comfort, expertise, and social status, a new hierarchy of scientific disciplines is created and the emphasis lands on

a transfer of “expert knowledge” with focus on organizational learning, entrepreneurship (Lutsenko 2018) and subjects like technology, engineering, finance, and mathematics. By contrast, arts, humanities, and basic research, lacking the profit making of the other disciplines, are deemed less relevant or as mere indulgence.

Given the rhetoric of rationality, such emphasis does not only affect institutional priorities and resource allocation, but reflects also the international hierarchy of economic influence and political power. As clearly described by the contributors to this chapter, under the generous umbrella of National Innovation Systems (Antoniuk 2018) and a redefinition of education investment risk around utilitarian welfare functions, scientific cooperation and funding preferences through different financial instruments remain oriented toward what is called emerging technologies (Gryga 2018; Krasovska 2018), and under the influence of various national and international organizations with a mandate in education, an orthodoxy of knowledge persists, imposing to all “newcomers” to subscribe (Weiler and Mitchell 1992).

Building the Education Stakeholder and the Politics of Power

Recognizing the fact that (higher)education and power are intertwined in a process of reciprocal legitimization is nothing new. Economically “parasitic,” universities have always relied on external sources of support, a support that brought to a varying extent also a certain degree of control from the sources of power in society, be it the church, the state or more recently the market. According to Roszak, for example, it can be counted “on the fingers of one hand the eras in which the university has been anything better than the handmaiden of official society, the social club of ruling elites, the training school of whatever functionaries the status quo required” (Roszak 1967, p. 4). Commenting on the legitimating role of universities, Foucault argues that “the university and in a general way, all teaching systems, which appear simply to disseminate knowledge, are made to maintain a certain social class in power” (cited in Chomsky and Foucault 2006, p. 40). On a similar note, Bourdieu (1988) emphasizes that institutions of higher education mystify the capitalist production process and prepare students to work in occupational hierarchies by socializing them into accepting existing distributions of power and wealth, and as such legitimizing structural inequalities.

Beyond these “heroes and demons” scenarios, debating the economic realities of (higher) education is important because of the future actions that such dispute may ensure. In line with Foucault’s argument (1995) that power is exercised rather than possessed and that knowledge is nothing but a discourse with a stamp of truth, education policy in a society cannot be divorced from the existing social hierarchy that generates it and to whose (in)stability educational goals contribute in return. Higher education regulation involves setting education standards and research

priorities, controlling access, setting remuneration rates for employees and consultants, providing mechanisms for accountability and “consumer” complaints, and finally administering the financing of education services. Regulation thus directly affects the provision of education services and influences “education market” activity in the (higher) education sector in line with the desired education policy intervention, at the dialogical border between “where we are now” and “where we should be.” In this sense, both (higher)education and economics can be seen as social constructs molded in the structures of social power in place that condition (both enabling and constraining) but not determine human activity, by which again, structures emerge and/or are reproduced.¹² As previously exposed by Corbett’s analysis (2012) on the historical record of EU Cooperation in Higher Education, such social constructs have their own dynamics which is nonetheless intertwined with the ongoing social processes in the historical period of their occurrence.

In the same line of thought, drawing a parallel between the social utopia of the “New Soviet State” proclaiming the emergence of a new society of equality and prosperity around the “New Soviet Man” (Valsiner 1988; Van der Veer and Valsiner 1991) and the current efforts to build the New (Higher) Educated Man as direct and indirect Education Stakeholder¹³ in an era of knowledge society and global economy, one could see the “where we should be” of today’s (higher) education arena as a similar social utopia. Utopias, despite their naturalized negative connotation, are more than simply pastime imaginative exercises in the sense that regardless of their success or failure, through people’s efforts to create them, they become scaffolds of actual social change.

Forged in the flames of a polarized debate between on one side, the dynamic market and its need for specialized knowledge as well as for meta-competences like innovation and entrepreneurship emphasizing the instrumental character of science for national educational agendas, and on the other the sheltered ivory tower fostering individual freedom of scientific autonomy and arguing against the commodification of education, the “New (Higher)Educated Man” sets the stage for social renewal. How? Let us attempt an answer by first getting closer to a social understanding of the terms education and economy and then by exploring how their “value” is co-created through experience.

¹²In the words of Peter Berger (1963): “people exist in society and society in people. For simplicity’s sake, we might call the one societal reproduction, the other societal production: society is reproduced (replicated over time and space) by what people produce (behavior, social relationships), which then shape people’s future production and, by further regression, society’s continued reproduction, and so on.”

¹³Typically, education stakeholders fall into two categories: direct stakeholders, such as students served through education programs, and indirect stakeholders, individuals and groups of people who benefit indirectly from the university’s programs (e.g., professors, parents and families of student participants, the larger community), and therefore have a long-term stake in the organization’s success.

Homo Economicus Goes to University

Turning to the economic discourse, the models developed around *homo economicus*, the rational individual able to choose the best means to an end and portrayed as part of a homogeneous species defined over some social aggregate, not only that continue to keep their attractiveness due to the “essential truth” they enable, but have also normative implications promoting “practical guidelines” that permeate education as well. The student’s rational processing of education alternatives for optimizing his or her investment is here a good example.

But how rational are we in our decisions? We can surely say that my “rational” act of investing in an MBA at X University is totally irrational to my friend and deeply rooted in my years of school experience and the normative value related to them. On the same note, my friend’s decision to save the money for travel and not enroll to an MBA expected to propel his career is irrational to me. From a classic economics point of view, this could bring to the table Mill’s opportunity cost as an expression of *homo economicus*, the utility maximiser. Even if the utility of an MBA is not the same for my friend and me, it could still be argued that behind our subjective preferences, we are both utility maximisers. Going even further into microeconomics, neoclassical economics introduces incentives and costs as playing a pervasive role in shaping decision-making. As such, the immediate example of this consumer theory would be that the decrease in personal income would automatically trigger a decrease of individual demand for let us say, the same MBA. What actually happens, is that for example, mesmerized by the advertised future opportunities of reaping high financial rewards and/or status, despite personal financial shortage contrasting higher education costs, people still take student loans or do their best in finding alternative financing possibilities for their studies.

Questioning the omniscient economic man capable to make the best decisions for the greatest benefit possible, coining the term “satisficing” (a blend of sufficing and satisfying) Simon (1979, 1982) favored a “satisficer” man looking for a course of action that is satisfactory or “good enough.” With limited access to all relevant information or time to analyse it all and solve the conflicting preferences for certain goals, the individual’s rationality is bounded, Simon claimed, and as such his or her choice is based on personal interpretation of the situation, which is often a simplification.

Almost 30 years later, the Nobel Laureate Daniel Kahneman in his prospect theory states that human reason left to its own devices is apt to engage in a number of fallacies and systematic errors based on loss aversion and use of certain heuristics. If we want to make better decisions, he underlines, we should be aware of our biases and seek workarounds. Those more cynical inclined might argue that awareness does not necessarily lead to better decisions or that the difference between “the best” and “good enough” is purely semantics. Does this mean that from a satisficing perspective, I could base my decision for an MBA at X, Y or Z University on a toss of a coin?

The difference, we argue, lies in Simon's holistic understanding of bounded rationality as grounded in the mutual re-construction of the organism and its environment, closer to the perspective of cultural psychology, where behavior is neither "objective," nor the result of a cultural dope functioning as "caused" by social suggestions, but a conduct, actions in the world that are made meaningful by the acting human being (Valsiner 2014).

Higher Education Between Commodity and Value

When talking about (higher)education, as a commodity or not, no one seems to contest its value. Education is good. And the higher, the better. To say otherwise is like farting in public, except maybe in few Asian and African contexts where such gesture did not yet acquire the correspondent negative normative value attached to it. Equally treasured by providers (higher education institutions) and clients (students), education tends to translate an interesting paradox. On one hand, educated people are thought to have different attitudes, ambitions, to prioritize or strategize differently, to be more efficient, productive, innovative, entrepreneurial, to be "better." To be better than whom? There is no "neutral" standard according to which educated and non-educated people are supposed to deviate in different directions. Instead, by abstracting certain "rational" aspects of human behavior from the whole complexity of behavior to which we than "irrationally" attach positive value, we create a performance measure and correspondent social roles (missionary educators elevating the willing uneducated) able to sustain a certain desired education outcome and social hierarchy in place.

On the other hand, this is not the result of some malicious celestial inspiration for the few, but an expression of our sense-making effort to regulate the various domains of our social life. No one can see or touch phenomena like education, economy, society, but we objectify them, we talk and act them into existence as quasi-real-entities because of their generalized social meaning allowing us to articulate, organize, and make sense of our muddled daily experiences.

Following Valsiner's perspective on the mutual construction of private and collective values (*idem.*, p. 223), if I, the prospective MBA student decide in favor of university A over B, I do it with my own sense of "good investment" acquired until that time through specific social circumstances and mediated by others, which is my internalized private value of that specific university.

Extrapolating this example to a University Board Meeting setting, if I as a member of the Management Board enter the negotiation with my colleagues about how much and on what the money should be invested in, I do it with the same personal sense of "good investment" developed until that specific time. Moreover, assuming that my investment argument is based on certain deep rooted into profession criteria as an expression of our normative lives, these "rules of the game," have both constraining and enabling proprieties. On one side, they limit my agency, but on the other, they also create the possibility for transgression. No matter how

deeply socially embedded I am as a person, constantly developing on the basis of social input, finally deciding to play by the rules, not to play by the rules, or to play by the rules by not playing by the rules, that is coming up with new approaches emerged at the liminal space between the old established “guidelines” and the new contextual challenges, my social rooted subjectivity remains accessible only by me (Valsiner 2014).

Ultimately, this not only makes education a cultural construction, but also portrays the Member of the Boards from the above example as an emerging subject, and investment as a communicative act (Salvatore et al. 2009), first between me and the other members of the Board, as investors, and later on with the stakeholders of that particular investment.

Without the participatory collaboration of the human beings involved, the university from this example represents at best conglomerates of bricks and mortar surely displaying no agency. Yet, through the social positioning of the human beings involved within a certain social structure (Board member, manager, dean, CEO, professor, student and so on), the university becomes “alive,” meaningful. In the same line of thought, the notion of member of the Board of Directors, or university professor, without the agency of the individual and the social practice rendering it as meaningful would be a simple association of empty words. Moving up the scale, the same would be the case for terms like education, business, or society.

Such a perspective helps us understand that the normative texture of these human inventions meant to organize our lives makes the various scenarios of social happening possible, from which we do not emerge as “proprieties” of social units, nor as a given, out of the blue sky or genetic code. Our ways of being in the world do not simply happen, but are normative in the sense that our actions could be more or less compatible with local customs, conventions.

Even a migraine, which might happen to me as simple biological reaction, if it is to strike in the middle of the above-mentioned imagined Board Meeting and trigger a long and loud whining, will still be subject to normative evaluation. More importantly, it is worth remembering that every event occurring within certain structures and as such affected by its constraints creates also part of the context of future events. The “inappropriate” manifestation of my migraine during the meeting could limit my future participation, open the door for a developed “immunity” to whining in such context, reinforce the norm by including whining as forbidden in the Board Meeting protocol, or instate a counter-norm, respectively—whining allowed.

To conclude, the organizational culture of the university, while entailing shared meanings, norms and everyday practices, all united into a heterogeneous complex, remains still person anchored. Simple accounts of “successful investments” adopted no matter where do not make it a pass par tout solution. Increased pressures to improve operational efficiency and reduce expenditures at the university in this example are a reflection of the whole education system, in the same way that education services/acts represent complex inter-woven series of relationships between multi-disciplinary teams, facilities and protocols that interact with the

“service user” on a largely customised basis. As a result, we could argue that even when our actions are socially guided (teleologic development from past to the immediate future in the infinitesimal present), our movement is self-guided (teleogenetic).

Creating Value Through Experience

If we consider the social to be the public part of public value, implicitly its opposite will be the private value translated so to say in the individual preferences emerged from the historical context the person is embedded in. Referring to the University–stakeholder relation, I, the student, for example, could be seen as the sub-whole of the education system as a larger whole, whose representative in this particular case is the University under discussion. My experience with the University and the services it provides is unique, “private,” as relates also to my personal historicity (prior fortunate or unfortunate experiences in similar contexts). Nevertheless, after being (di)satisfied with the education services I received, the “private” value I attribute to the University through the exchanges I have with the “others” fuels into the public.

Let us take an example: we imagine that some months after my positive experience with X University, my colleague asks for my help in choosing a university for his daughter. My previous “private” value becomes social suggestion for my colleague, suggestion that he might or might not act upon. Facing a bifurcation point where a decision is required, he could choose to go to University X I recommend, he could reject the idea based on different criteria in selecting a University or a sudden fallout of our friendship, or ignore it (restricted by other conditions, e.g., proximity, budget).

Extrapolating from this example, one could argue that the sum of the “private” values represents the public value of the University. But in this case, the fact that the University will have one, two, or hundreds of students more or less supporting its advertised “excellent education services,” all expressed in statistical terms quantifying complex phenomena, will not provide insights into the relation between the wholes, e.g., the parts of the system. For that, an investigation into the dynamic processes taking place at the separating but also unifying border¹⁴ between individual, university, and the education system as sub-wholes in and of themselves is needed.

As the theory of complex systems specifies, what happens dynamically is a function of time as the system undergoes subsequent differentiation given by the emergence of new structures of order. Accordingly, our envisioned investigation at the liminal space between the individual, the university, and the education system

¹⁴Boundaries are ontologically dependent on the entities they bound (Varzi 1997).

should also include time, not as chronological aspect of our lives, but as parameter of investigation.

In other words, returning to the example of a certain investment decision that needs to be taken in conditions of limited budget (e.g., to invest in advertisement and a modern campus or in facilitating a broader student experience in terms of curricula), facing a bifurcation point, it might be interesting to pay attention to the tensions emerged between the alternatives and the factors leading to the selection of one trajectory over the other. Such an approach, we believe, could provide insights into the directional atmosphere that supports but does not force the enablement or disablement of a certain decision, and could help us better understand how the values guiding our normative lives represent the catalyst of both actualization or obsolescence of the social order and how public value is created through experience.

Similarly to Newton's apple experiment (interested not in apples, but in the falling objects), through the semiotic dynamic approach to public value we aspire to move beyond the fallacy of synecdoche approaches to (economic) design, toward a general theory of sensemaking. We believe that the idiographic focus on the qualitative hierarchical heterogeneity of the human psyche can enable us to conceive economics, education and other social constructs alike in a holistic, multi-layered dynamic way, non-reducible, neither downwards to preferences/behavioral linearity, nor upwards, portraying individual as diluted into the collective, "the public."

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Part III
Universities in the Middle
of Globalization

Chapter 10

Making Universities Grow: The New Zealand Experience



Robert D. Greenberg

The New Zealand tertiary education system consists of eight universities, numerous polytechnical institutes and other smaller tertiary providers. For the purposes of this essay, I will focus on the eight accredited universities, which are all government-funded and include the following institutions: University of Auckland, University of Otago, Victoria University of Wellington, University of Canterbury, Massey University, University of Waikato, Lincoln University and Auckland University of Technology. Collectively, the universities in New Zealand enrol approximately 177,000 full- and part-time students and employ around 20,500 staff (see Universities New Zealand website at www.universitiesnz.ac.nz). Government grants account for 40% of the income for New Zealand's universities, and the remainder is made up mostly of student fees and research income. The move to grow endowments through philanthropic activities is relatively recent in the New Zealand university sector.¹ The University of Auckland has developed the most ambitious plans in this arena and publicly launched its third major fund-raising campaign in September 2016 with the aim of raising NZD300 million (see <https://www.auckland.ac.nz/en/about/news-events-and-notice/news-2016/09/university-of-auckland-launches-300m-fundraising-campaign.html>). The University of Auckland's campaign, "For All our Futures", is meant to ensure that the country's top-ranked university is seen as contributing to the economic, social, educational, scientific, and medical wellbeing of New Zealand as part of a global network of leading institutions of higher learning. Indeed, universities in New Zealand must be innovative and ambitious in an effort to maintain and enhance relevance made all the more challenging given the country's geographic remoteness. All eight of the

¹Whilst universities in New Zealand have received philanthropic gifts, only the University of Auckland has a history of successful philanthropic campaigns beginning in the early 2000s.

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country's universities are within the top 3% of universities as per the QS ranking system, but increasingly there is a sense that the Universities in New Zealand are challenged by the ever-changing governmental policies, and a sense of increased competition both nationally and globally for often insufficient government or private funding. Growing universities, then, becomes a challenge, as in the New Zealand context the growth in one university could result in a decline in another one within the country. The Christchurch earthquake of 22 February 2011 caused extensive damage at the University of Canterbury and resulted in significant declines in student numbers that were still being felt 5 or 6 years after the devastating events. As a result, universities in New Zealand are keen to develop business continuity plans so as to avoid significant declines in revenues in the case of natural disasters or other calamities.

In this contribution, I will outline some of the other challenges that have been faced by New Zealand universities especially in a context of new international ranking schemes, government funding, research opportunities and the growing of student numbers. New Zealand has a large number of universities and other tertiary providers given its relatively small population of 4.5 million. The universities in New Zealand tend to benchmark themselves against the often better-funded Australian counterparts and compete for international students with other large English-speaking markets such as the USA and the UK. Despite these challenges, New Zealand universities have managed to maintain high quality and have been able to grow through innovative initiatives, both individually and collectively. Growth has also been fostered by Education New Zealand, which is tasked with promoting New Zealand's educational brand overseas, and Universities New Zealand (Te Pōkai Tara), a statutory body representing and advocating for New Zealand's eight major universities.

A Competitive Environment

A statement from the 2017 Chair of Universities New Zealand, Professor Stuart McCutcheon, from 29 March 2017 reveals some of the challenges facing the entire New Zealand university sector. Responding to inaccurate media reports about the purported desire at New Zealand tertiary institutions to relax academic standards for students through a variety of nefarious schemes (see http://www.nzherald.co.nz/nz/news/article.cfm?c_id=1&objectid=11827075),² McCutcheon wrote that “New Zealand's universities all value their international reputation for delivering high quality education. All eight universities are ranked in the top 3% (500) in the world. We would not put this at risk. This is how we attract the best academics and researchers from around the world, which in turn attracts quality students—despite

²The article was written by Simon Collins, the education reporter for the *New Zealand Herald*. The article quotes academics who claim to be “pressured to ignore cheating and pass incompetent students”.

having the lowest income per student in the western world” (see <http://www.universitiesnz.ac.nz/node/939>). Whilst the negative stories in the media came from the less prestigious polytechnical institutions or other smaller private tertiary providers, the urgency of Universities New Zealand’s response represents an effort to secure the international reputation that the eight universities have worked so hard to achieve. However, even among the universities themselves, recent circumstances have caused heightened anxiety as the marketplace for both domestic and international students has become tighter and competition among universities has increased. This competition is compounded by demographic pressures, as the number of school leavers, or High School graduates, is projected to decline over the next few years before increasing again in the mid-2020s.

Since the early 1990s, the government funding of New Zealand universities has been based on the number of student enrolments, or what in New Zealand are referred to as EFTS (equivalent full-time students). Each year, the universities set EFTS targets, and when these targets are not met, universities may have to return funds to the government, and the government funding the following year will be reduced as a result of that fluctuation. With budgets potentially reduced due to drops in student numbers, university administrators work to ensure that recruitment of domestic and international students remain a priority, so as to preserve budgets in order to provide the full range of academic programs, student services and research support.

Faced with these challenges, the university sector has become a more competitive space, as the various tertiary providers compete for a shrinking number of domestic students. To maintain growth and reach EFTS targets, the universities have increasingly sought to grow international student numbers as these students frequently pay higher tuition costs and are weighted more heavily in the formulas that are used to calculate overall EFTS.

Fees at New Zealand universities are set each year by the government when the annual budgets are announced in May. For domestic undergraduate students, the fees are relatively low when compared with state-funded universities in the USA and the UK. In 2016, the tuition for undergraduates was around USD 5000 per annum. The universities charge more than double that for international undergraduates, hence the attraction of increasing international EFTS. The exception to the higher tuition charges for international students is made on the doctoral level, where all doctoral students from overseas are charged the domestic tuition rates. In this way, universities in New Zealand have a competitive advantage over Australian universities in which international students pay higher international fees for the doctorate. This doctoral strategy has been another element in the overall efforts in New Zealand to bring highly skilled international students to the country to complete advanced degrees.

Despite this preferential treatment for international doctoral students, the New Zealand sector suffered a serious drop in international student enrolments beginning in 2004, after the damaging closure of two English-language institutes which received significant negative media coverage in one of New Zealand’s most important markets for international students—the People’s Republic of China. The failure of the two English-language institutes—Modern Age Institute and Carich Training—damaged the country’s reputation in delivering high-quality educational

experiences especially to students who required English-language coursework prior to enrolling at universities. Modern Age went into liquidation in September 2003 (see <http://www.scoop.co.nz/stories/ED0310/S00075/sfo-complaint-over-english-language-school-closure.htm>), and Carich Training went into receivership in November that same year (see <http://www.scoop.co.nz/stories/BU0311/S00078/carich-training-centre-limited-in-receivership.htm>). Soon after, the numbers of international students enrolling in New Zealand universities fell significantly. In the period from June 2004 to June 2007, the number of Chinese students studying in New Zealand declined from 66,093 to 37,231.³ In the New Zealand press, this decline was explained in the following way:

The growing student aversion to this country has been blamed on many factors, including the strong dollar, the Sars virus, fears of terrorism, anti-Asian politics, negative international publicity, Asian crime and deliberate intervention by the Chinese Government. It has even been claimed that cost-conscious Asian students have faced strong competition for budget airfares from costumed fans arriving in New Zealand to visit the film locations for *The Lord of the Rings* and *The Last Samurai*. These factors were only worsened by the collapse of the multi-campus Modern Age Institute of Learning in September, quickly followed by Carich Training's demise (see http://m.nzherald.co.nz/nz/news/article.cfm?c_id=1&objectid=3540636).

Beginning in 2010, the number of Chinese students began to increase again and by 2016, Immigration New Zealand had issued more than 33,000 visas to Chinese students—the first time that mark had been surpassed in a decade (see <http://www.radionz.co.nz/news/national/309485/over-33,000-chinese-student-visas-granted>). This recovery in the number of Chinese students has required painstaking attention from key stakeholders in New Zealand. With the support of Education New Zealand and the Tertiary Education Commission—the government agency overseeing universities—New Zealand's universities endeavoured to promote and develop programmes that would appeal to international students. For instance, the University of Auckland launched a new Masters in Marketing in 2013 that attracted many international students, especially from China.

The Strategies for Growth

Whilst the attracting of international students has been a constant focus and pre-occupation at New Zealand's universities, this strategy can only be possible if institutions are willing to rapidly adapt to changing market circumstances. Strategies for adapting include: (1) changes that can create greater efficiencies in administration and related costs; (2) curricular changes, including deletion or

³See Yi Yang, Mingsheng Li, and Frank Sligo. 2007. "Chinese Students' Satisfaction Levels with their Learning Experiences in New Zealand". Available at https://www.researchgate.net/publication/228432481_Chinese_international_students%27_satisfaction_levels_with_their_learning_experiences_in_New_Zealand; accessed on 12 April 2017.

addition of new programmes; and (3) diversification of the income streams to offset low level of government support with philanthropic funding and other external research income.

Perhaps one of the most challenging aspects of growth is to identify where administrative costs can be cut, so as to funnel more funding to areas within universities that can grow the operation and numbers of students. As I am most familiar with the experience of the University of Auckland, the country's leading and largest university, I will focus on efforts made in my own institution.

In 2012, the University of Auckland began a restructure that involved a Faculty Administrative Review (FAR). The FAR process was designed to recommend a new professional staff structure that would increase opportunities for staff mobility and reduce confusion around a large increase in the range and number of professional staff roles in Faculties. One of the key principles of this restructure was to move away from generalist roles for administrative support to a model whereby roles adhere to a functional model. Thus, rather than have a "departmental coordinator" role, which supported academic staff within the academic unit/department, the idea was to create functional areas, including "group services", "academic services", "student services" and "communication and marketing services" to name a few key functional areas. Other functions to support staff were also moved to two new central services, the "Staff Service Centre" (SCC) and the "Shared Transaction Centre" (STC). As a result of a two-year process, the professional staff structures in all of the University's eight Faculties were changed, and the number of job titles was reduced from over 300 to 35. The overall result was that the administrative structure became leaner, as some support services also moved centrally, and group services translated into a pool of fewer professional staff supporting a larger number of academic staff. The FAR project was an effort to save on administrative costs, which allowed the University to invest more heavily in areas that impacted enrolments directly, such as new and expanded undergraduate and postgraduate scholarship schemes. The new scholarships were announced in May 2016 with the following headline: "Hundreds of New School Leaver Scholarships at the University of Auckland". The article goes on to say that "More than 400 new undergraduate scholarships were announced in late May, bringing the total value of first-year scholarships at the University in 2017 to over \$8.3 million" (see <http://www.schoolleaver.nz/latest-news/24-hundreds-of-new-school-leaver-scholarships-at-the-university-of-auckland>). These new scholarships have increased the University's competitiveness within the New Zealand sector, as all other major universities in the country have been offering new scholarships to compete for the dwindling number of incoming first-year students. Changes such as those resulting from FAR create challenges for institutions; however, in the long term, these changes allow the University to remain competitive and prioritise its limited resources.

Another key strategy for attracting international students, especially from key Asian markets, has been the introduction of new named programmes in business, information technology or teaching English to speakers of other languages. Following the lead of some Australian universities, tertiary institutions in New

Zealand have sought to introduce new taught named Masters degrees that could be completed in three semesters or two semesters and an intensive summer session. These named qualifications, such as Masters in Conflict and Terrorism Studies, Masters in Marketing, or Masters in Information and Computer Technology, carry no significant writing/research component, and therefore can be especially attractive to postgraduate students who are not native English speakers. At the University of Auckland, the Masters of Marketing has attracted large numbers of students from China, and the Masters of Public Policy has attracted new students from Southeast Asia. This strategy of diversifying the postgraduate mix of qualifications has meant a shift from some of the more traditional research MA degrees to the more specialised taught varieties that can often be completed in less time and allow international students immersion in an English-speaking environment with a qualification that has potential to lead directly to a fruitful career. Many of these taught postgraduate qualifications include components such as internships or other forms of experiential learning that prepare graduates for the workplace.

The third element of the growth strategy in New Zealand is inspired by the North American model of increasing private or philanthropic funding or non-governmental research funding. As the funding model at New Zealand universities is based on volume of students, some sectors are vulnerable when enrolments drop. For instance, the Division of Humanities at the University of Otago saw a decline in EFTS in 2016 which resulted in plans to cut up to twenty jobs (see <http://teu.ac.nz/2016/08/humanities-cuts-otago/>). Cuts to academic departments that result from reduced enrolment can diminish the comprehensive nature of a university. Philanthropic support can serve as a means of funding some of these vulnerable sectors. It has become especially important because successive New Zealand government funding schemes have favoured Science, Technology, Engineering and Medicine over other subjects such as the Liberal and Creative Arts, Humanities, Social Sciences, Law, Education and Social Work. To prevent an erosion in these less scientific fields that offer essential skills to students, without which they would not be able to compete in the global economy, it became necessary for universities to find financial support which was not attached to an ideological concept of educational value.

New Zealand universities embarked on this path in the early 2000s and are slowly growing endowments and developing priorities that are receiving higher levels of philanthropic support. Much of this effort has required a change in culture within society. Many of the alumni of New Zealand universities recall the days when government fully subsidised their tuition, and often feel uncomfortable when being asked to support initiatives in an environment of shrinking public funding. Nevertheless, philanthropy in New Zealand has funded professorships, scholarships for students, research, postdoctoral fellowships, and numerous travel programmes that have brought distinguished visitors from overseas to lecture in New Zealand.

In addition, New Zealand universities have aspired to create stronger linkages with institutions overseas to access external research income that may be funnelled through principal investigators at overseas universities. This strategy has allowed for funding to benefit our researchers from US government sources, such as the

National Science Foundation, the National Institutes of Health, some of the European Union funding schemes or those available to colleague collaborators in Hong Kong and Japan. Whenever direct funding is possible from overseas sources, such as the Japan Foundation or the Confucius Institute, universities in New Zealand have been able to derive significant support for certain niche programmes. Until now, the tertiary sector in New Zealand have resisted a global trend of founding satellite campuses in Asia or the Middle East. However, through other entrepreneurial activities were sought. The partnership between the University of Auckland and Auckland UniServices, Ltd., the University's commercial arm, solicited new opportunities for research projects and their commercialisation. My own experience with Auckland UniServices has revolved around the activities of the English-language academy, which brings students to New Zealand for non-credit courses to study English and in some cases to prepare them in academic English skills that would allow them to enrol in University of Auckland degree programmes. These entrepreneurial efforts help to bolster engagement with overseas markets and has potential to continue to provide a pipeline of students who may seek to enrol thereby adding to the number of EFTS the institution can count towards its overall targets.

Debate Over the Future: Report of the Productivity Commission (2017)

In November 2015, the New Zealand government asked the “Productivity Commission” to write a report with recommendations on how to create “new models” for tertiary education. The Commission was tasked to investigate “how trends in technology, internationalisation, population, tuition costs and demand for skills may drive changes in models of tertiary education”. It issued a preliminary report in September 2016, which was widely criticised by many tertiary institutions and the press. The *New Zealand Herald* reported that “A 400-page draft report suggests a radical shake-up of the tertiary education sector...[The draft report] is heavily critical of the current model of tertiary education and how it's funded... It proposes a shift from a Government and institution focus to a student-centred approach, allowing for more flexibility and innovation in the sector in a bid to keep up with fast-paced changes in the modern world” (see http://www.nzherald.co.nz/nz/news/article.cfm?c_id=1&objectid=11718719). Universities New Zealand was critical of the first draft and wrote a lengthy rebuttal that questioned many of the items raised by the Productivity Commission, contending that the Commission had not made a “compelling vision” for the future of New Zealand's tertiary sector (see <http://www.universitiesnz.ac.nz/node/918>). After considering numerous submissions on the draft report, the Productivity Commission produced an even longer

final report in March 2017.⁴ Once again, Universities New Zealand criticised the report for not addressing the fundamental difficulties inherent in the New Zealand tertiary sector, which is the low level of investment on the part of the government, and the challenges inherent in the outdated funding models that had been developed in the early 1990s. In their press release, Universities New Zealand asserted that the Productivity Commission's report "failed New Zealand" by not recognising the fundamental fact that New Zealand has one of the most efficient and effective University system in the developed world, with impressive statistics on degree completion (84%) and very high graduate employment rates (98%). According to the Executive Director of Universities New Zealand, Chris Whelan, "the Commission has lost sight of the real issues hindering the continued development of the sector.

They are arguing that deregulation and opening the market up to more international competition is the key to producing a better system for students and employers. 'The reality is that our funding levels are too low to attract high quality international providers or to produce the innovative new forms of teaching that are appearing in other parts of the world'. (see <https://www.universitiesnz.ac.nz/latest-news-and-publications/productivity-commission-reportfails-nz-0>)

Suffice it to say that the effect of the report of the Productivity Commission remains unclear. New Zealand has been led by a centre-right government dominated by the National Party since 2008, and 2017 is an election year and it is still unclear how the election campaigning may impact policy towards the university sector. The government has largely kept the funding for universities at low levels in relation to other OECD countries, making most of its increases in funding in the STEM disciplines and for research programmes, such as the National Science Challenges, Health Research Council, and Ministry of Business, Innovation and Employment (MBIE) funding schemes. Non-STEM disciplines, such as Humanities and Social Sciences, have seen a decline in funding in real terms, and EFTS in the non-STEM disciplines have been soft across the sector.

Conclusion

As demonstrated here, New Zealand universities have grown despite numerous challenges. The modest investments in the university sector that the government has made may have motivated the universities to become more entrepreneurial in recruiting cohorts of international students, seeking philanthropic and private funding, and finding innovative ways to cut administrative costs. The system is quite vulnerable—domestic student numbers are declining due to demographic and economic trends in New Zealand, but other factors can either cause sudden

⁴The draft report and final report are available on the Productivity Commission's website at <http://productivity.govt.nz/inquiry-content/2683?stage=2>.

increases or declines in international student numbers. These elements have included geopolitical developments, such as the global financial crisis after 2008, or the Asian financial crisis in the late 1990s. Similarly, developments such as Brexit or the decline in fortunes in other English-speaking countries could lead to a spike in the numbers of international students enrolling in New Zealand. In a globalised marketplace, the New Zealand universities have had a remarkable success. The universities attract highly accomplished academic staff from around the world, and these staff are often engaged in cutting-edge research.

As the Productivity Commission report reveals, New Zealand is still trying to define a clear path forward for its university system. The Vice Chancellors of the eight main universities view the university sector as key to the economic development of the country and to the success of New Zealanders. To grow further, the universities need to partner more effectively with industry and create a culture that truly believes that a country like New Zealand deserves a great university system, and that the universities are a true asset, essential for the country to thrive. This kind of strategy will ensure that the universities continue to grow despite the vicissitudes of chance events or geopolitical developments beyond the control of the New Zealand government or university administrators.

Chapter 11

Challenges for Higher Education: The Case of Ukraine



Andriy Stavytskyy

In the middle of 2014, a new version of the “Law on Higher Education” (2014) was passed in Ukraine. It promotes autonomy of universities, stating

higher education institution’s accountability in decision-making regarding the development of academic freedom, the organization of the educational process, research, internal management. (Article 1, Clause 1)

Practice shows that freedom can be used in different ways. One cannot exclude a scenario in which state universities develop in completely different directions compared to one another. In this, chapter I outlines some threats of the implementation of the new Law on Higher Education in Ukraine and investigates ways to improve the scientific and educational activities in the country.

Problems of Quality Assessment

One of the criteria used for the evaluation of teachers and scholars in many countries is a citation index. Most international bibliometric databases—WoS and Scopus—take into account articles and citations of the articles from journals included in these databases. The Academy of Google (scholar.google.ru/citations) monitors Internet resources, so it gives a list of citations not only for articles but also for books. In addition to analyzing the number of publications and their citations one may use Wikipedia definition (2014) states that “Hirsch index for scholars and impact factor for the journals in which the article is printed. H-index or Hirsch index is the influential scholar index, based on the number of his articles and

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their citations. A scientist has index h if h of his/her N_p papers have at least h citations each, and the other $(N_p - h)$ papers have no more than h citations each”.

The impact factor is a numerical indicator of the importance of a scientific journal. It is calculated by a three-year period as the ratio of the number of citations during a year of journal articles of two previous years to the total number of articles in this magazine. Obviously, this approach has many shortcomings. Particularly, the quality of research, a standard frequency of publications in various fields of science, etc., are not taken into account by its calculation.

Trying to assess the role of teachers and scholars on the basis of these parameters appears flawed for many reasons. First of all, the monopolization of calculating these parameters creates endless opportunities for corruption and getting some excess profits by publishers of magazines. Today in Ukraine so-called advisory firms that offer services with the publication of articles in journals with high impact factor have emerged.

Requirements for calculating these indicators lead to paradoxical effects. On the one hand, one may observe a growing number of publications because everyone is trying to get some links to his articles. On the contrary, the quality of these publications and their difference from the previous results falls because it is unprofitable for the researcher to obtain high-quality results. It is much more advantageous to make many “small steps,” but each one to print as a separate article. The primary goal of research should be to solve a scientific or practical problem.

This primary goal is substituted in practice by a different sequence of actions. Typically, the process of investigation begins with a report on the conference or scientific discussion, publication in a thematic collection. However, these activities are not included in the calculation result of the scientist. In the writings that follow, instead of controversial ideas of original papers it is the polished final tangible results of investigations that are published in “impact factor” journals. Many authors rewrite in different versions the results of previous research to increase their social capital. This step is a danger for science—very often scientific controversies provide new directions for new research. If such controversies are not presented in publications the readers are deprived of the access of how science advances. Published versions of abstracts, books, monographs, textbooks, present only that kind of knowledge that is “freed” from such controversies and enters the consciousness of new generation of scholars as examples that do not provide new challenges. As Orlov (2013) mentioned, such published articles cannot have critical value for advancement of ideas. Furthermore, it can also be added that scientific journals often reject very new works because of their unusual nature of representation.

Particular attention in the publication process is currently given to the fight against plagiarism. Special computer programs are created that check for plagiarism not only dissertations, scientific works, but also graduate theses. This is a major administrative effort that is not transferred to universities and research institutes in the Ukrainian context. Due to the absence of actual implementation of such systems, its development may take decades.

Thus—all in all—for an adequate evaluation of the scientific productivity of scholars the requirements for “socially valued” publication of scientific results should be reviewed.

Issues of Autonomy of Universities

Increased autonomy of universities has been another significant problem in Ukraine—at least in the short term. Under the new Law on Higher Education (2014), most Ukrainian universities give diplomas of graduation accordance with clause 6 of Art. 7

document on higher education state institution of higher education issued only by accredited educational program. For non-accredited educational program universities produce and publish their papers on higher education in the manner and according to the pattern defined by the academic council of higher education.

Quality of teaching. In today’s conditions, this means that autonomous universities are simply not interested in improving the quality of teaching. Instead, they are more interested in many contractors, to whom a minimum level of education can be given. Unfortunately, the absence of real competition between universities gives no chance to solve this problem. However, Ukrainian institutions of higher education are not yet ready for such competition. If students in European education area can change the university, using credit accumulation system (ECTS), then this is not the reality in contemporary Ukraine. Today this problem is being solved by additional regulations and explanations of the Ukrainian Ministry of Education and Science of Ukraine, but in the future, it should be solved by universities in their autonomous roles.

Budgetary restraints. If the Ukraine Government—based on a special state order for universities—transfers to payment system where funding is given for each place of a student, the universities will have no choice except fighting for every student. At the same time, if the government pays to a university for each place of a bachelor-level student it creates economic dis-incentive for student mobility. The Ministry transfers money for four years—this does not stimulate the transition of the student to another educational institution for 1–2 semesters. This situation significantly reduces opportunities for student mobility not only internationally, but for domestic mobility as well, without which development of competitions between universities is impossible.

Student scholarships. Currently, scholarship—is a cash payment regularly provided to students of higher education institutions, as well as graduate students and doctoral candidates subject to successful learning. There is enough danger in this arrangement.

Firstly, university pays scholarships from the state and/or local budgets. This means that while the scholarship of the student is “tied” to a particular college of

university, it is unrealistic to transfer money to another region due to the jurisdiction reasons. Thus, the availability of scholarships is a barrier to the internal mobility of students.

Secondly, this system does not contribute to the quality of education. Before the new law was adopted, all students with GPA above 4.0 were receiving scholarships. Obviously, this created a social tension and stimulated corruption. According to the new law, grants will be obtained by not less than two-thirds of students regardless of the ratings. Unfortunately, in the law, it is written that it applies to “every course,” not “every speciality.” It will lead to such situation when simpler specialities will receive scholarships almost for all students and for challenging it will be almost for none. In other words, there is a situation when the students will choose a speciality for admission not by preference or ability, but for ease of learning. At the same time, it must be admitted that some students do not need scholarships because of the financial position of their parents.

Therefore, Ukraine needs to move from a system of scholarships through the university system to payments via public and private grants. Such a system can be organized in different ways. Firstly, the overall state agency may issue a semester scholarships for studying or training support. Secondly, some students may receive government loans for education, which must be paid back within 10–30 years after graduation. Thirdly, students can receive grants from private foundations and charities that will support students of certain branches. This system is primarily expanding the possibilities of mobile learning, as the transfer of the funds from one institution to another is much easier than transferring the budget places. Another benefit of such system is the prospect of studying abroad.

In any case, the existence of this system would promote real competition between universities, reducing their number, and enhance enlargement and improvement of the education quality. At the same time, it is necessary to develop a mechanism of protection against unlawful university activity. Now there is a paradoxical situation where universities do not exclude students, who fail exams, to save money from contractors or public resources. In some universities, it is clear that the case of leaving of 4-5 students leads to cutting one teacher position. Obviously, such a regulatory framework is entirely outdated and does not contribute to improving the quality of education.

University teachers’ workloads. Another crucial and painful issue is the reducing workload of teachers from 900 to 600 h. When the 2014 Law was being prepared, it was stated that such reduction should not lead to an increase in staff units, and, therefore, it is necessary to carry out a range of measures to review the number of hours spent on various jobs, increase students’ self-work and transfer of some classroom training to it. Unfortunately, taking into account Ukrainian realities, one can expect a significant reduction in hours allocated to supervising diploma and coursework that may adversely affect their quality. However, for the improvement of education quality attention to such kinds of work must in the limelight. Everything should be inspected for plagiarism, independent performance of diploma papers.

At the same time, many universities use hours inefficiently. In particular, many university curators of academic groups are awarded up to 70 h for the performance of their duties. Usually, assistants, associate professors, and professors are appointed to the position of university curators. This distraction of teaching staff from their regular duties adversely affects the quality of the educational process.

Given the above, it may be effective:

1. A significant decrease in the number of curators, who can manage multiple academic groups simultaneously;
2. The maximum release of highly qualified scientific and pedagogic workers from the responsibilities of curators, and;
3. Creating department curator's unit with specially selected trainers to be engaged in the professional duties and on a constant basis.

Conclusions

We can conclude that the adoption of the 2014 Law on Higher Education in Ukraine although presented revolutionary opportunities for changes in the industry, it requires considerable effort to achieve these goals, a rapid transition to new forms of work. Most of the issues have to be resolved. Further transitional requirements of the Law came into effect on September 1, 2015. Unfortunately, the further process showed that reforms in higher education were delayed due a number of reasons. Agency for quality assurance just starts its activity. Most universities were not yet ready for educational autonomy because of lack of financial independence. It led to revising the structure of teacher's workload, but in reality, it did not boost research activity of Ukrainian teachers. At the same time, authorities recognized threats and tried to provide appropriate changes. For example, the system of scholarships was revised but still is under reconstruction.

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Chapter 12

Global Competitiveness of Universities



Volodymyr Satsyk

Modern globalization processes are tightly related to internationalization of education and research activities, sweeping innovative changes in teaching and science, broad diversification of fundamental and applied research. However, pioneering breakthrough research is concentrated in a limited number of world-class universities; high competitive status of those largely determines international competitiveness of national higher education systems and ultimately innovation potential of countries (Geiger 1993; Clark 2006; Salmi 2009). In this regard, the key priority of current public policy in many countries is a development and implementation of an effective strategy of higher education development based on mechanisms allowing universities effectively to integrate into the global scientific and technological space. In turn, nations with significant research potential can better control their destiny in the global knowledge economy (Marginson 2006).

Important issues concerning competitive universities development in Ukraine are specific to the local conditions, despite sharing common features with the rest of the world. Resources and financial capacity of Ukrainian higher education institutions are insufficient for their effective competition in the global market. Besides that, implementation of a strategy of competitive universities development in Ukraine requires further scientific research in a part of the formulation of relevant strategic objectives, choosing appropriate methods for their achievement, taking into account key determinants of universities' global competitiveness at a whole and a specific factor of the national educational environment in particular.

The central research question in the paper is following: What are the key determinants of global competitiveness of universities? Specifying the research question we stress attention what should be strategic directions of government policy in the sphere of higher education in Ukraine for the development of globally competitive national universities?

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Key Determinants of the Global Competitiveness of Universities

Analysis of different theoretical concepts of universities' global competitiveness enabled to systematize key determinants of their competitive success (Table 12.1). On this basis, we suggested that globally competitive university is a higher education institution which is able:

- (1) to take and hold strong positions in individual segments of the global education and relating intellectual products markets;
- (2) to achieve international competitive advantages in scientific research;
- (3) to deliver quality educational services due to international standards in this field; and
- (4) to perform important social tasks for society.

Strategic directions of any government's policy in the area of education and research for the development of globally competitive universities in any country need to consider take into account all factors (mentioned above) and ensure on this basis achieving synergistic effect of their interaction. Further, we paid particular attention to the element of expenditure on higher education per student in different countries and how it relates to the international disposition of countries by the number of world-class universities, and quality of higher education as well.

According to the study of 50 countries (Satsyk 2014), the more universities achieve global competitive status (based on the Shanghai ranking of world universities, as of 2012), the better is the national system of higher education (due to the value of sub-pillar 5B "Quality education," WEF 2012–2013). On the other hand, increasing the presence of universities in the Shanghai ranking and improving the quality of higher education are accompanied by the growth of total expenditure on higher education per student in both: public and private sectors (Fig. 12.1). Furthermore, due to analytical results of the study, more significant impact on world-class universities development and ensuring a better quality of higher education appear to be from a side of public rather than private financing—based on spending on higher education per student.

There is also some "optimal" value of average government spending on higher education per one student (about 6000–18,000 USD, PPP), ensuring maximum representation of universities in the world rankings and high quality of countries' higher education. This group is mostly represented by Western European countries where the Continental model with its tradition of government financing of tertiary education dominates. There is also some "optimal" average value of private expenditure on higher education per one student (about 3–6 thousand US dollars, PPP), ensuring the highest representation of universities in the world rankings and relatively high quality of academic education. Prominent members of countries with developed private and corporate traditions of higher education financing are Republic of Korea, Brazil, Japan, Australia, UK, Canada, USA, where the

Table 12.1 Key determinants of universities' global competitiveness

Determinants	Hobbs (1997)	Clark (1998)	Teich (2000)	Wang (2001)	Lombardi et al. (2001, 2002)	Armstrong (2002)	Altbach (2004, 2007)	Marginson (2006)	Salmi (2009)	Horta (2009)
Talented researchers, teachers, and students	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Sufficient material and financial resources, developed university infrastructure	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Transparent and efficient governing/management system	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Realization of (breakthrough) research in priority knowledge fields	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
High-quality and innovative educational process, integration of research in students' learning activities	✓		✓	✓	✓	✓	✓	✓	✓	
Academic freedom and university autonomy				✓		✓	✓	✓	✓	
Government financial support			✓	✓	✓				✓	✓
International reputation and successful internationalization experience				✓				✓	✓	✓

(continued)

Table 12.1 (continued)

Determinants	Hobbs (1997)	Clark (1998)	Teich (2000)	Wang (2001)	Lombardi et al. (2001, 2002)	Armstrong (2002)	Altbach (2004, 2007)	Marginson (2006)	Salmi (2009)	Horta (2009)
Productive cooperation with business, other organizations, alumni	✓			✓					✓	
Developed entrepreneurial culture (environment) of a university	✓				✓				✓	
Extensive diversification of research and education, social and cultural life of a university	✓	✓		✓						
University affiliation to countries with advanced education and research systems										✓

Source Satsyk (2014, p. 137)

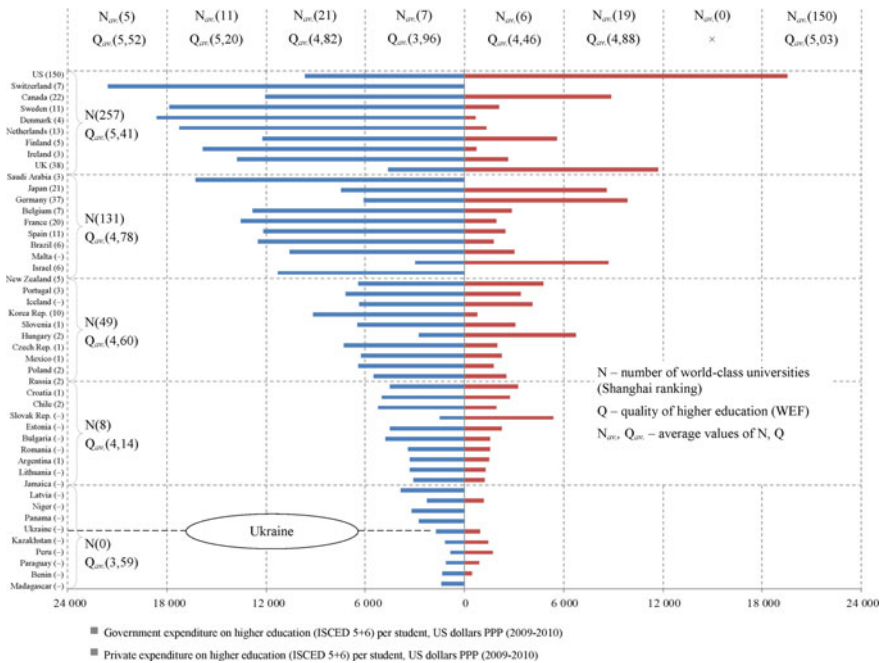


Fig. 12.1 International disposition of countries by expenditure on higher education (per student), its quality, and quantity of world-class universities *Source* Satsyk (2014)

Anglo-Saxon model dominates. In general, “optimal” parameters of public and private expenditure on higher education per student can serve as a guide for the formation of effective higher education model, aiming to ensure its high quality and the establishment of world-class universities.

Strategies for Development of Competitive Universities

Due to international experience (Dupree 1957; Atkinson 2007; Altbach 2011), regarding limited financial resources, active government support (institutional and commercial) by different strategic directions is critically needed. Such support could be realized through the promotion of the highest standards in teaching and learning, expansion of general public access to high-quality educational services, increasing the research capacity of universities. The main result of this strategic policy appears to be a gradual evolutionary separation of academic institutions that can compete in the global market—so-called breadth strategy to be deployed in Western Europe (Marginson 2012). Targeted investment of government financial resources into the development of world-class universities based on a small cohort of existing domestic higher education institutions that can carry out pioneering

research in the future represents the alternative strategic policy of the government support (“depth strategy”). Such a strategy was successfully deployed in East Asia countries (China, Japan, Taiwan, Republic of Korea) during the second half of twentieth century, and these days to be practicing in Saudi Arabia and Brazil (Marginson 2012). However, universities from developing countries have to deal with advanced research and improve quality standards of higher education simultaneously (some combination “breadth” and “depth” strategies at university level) (Marginson 2012). The combined strategies are effectively deployed in countries such as Russia and China (Salmi and Froumin 2013). In this regard, central governments are funding both the “excellence initiatives” to develop domestic competitive universities and national programs of higher education development to improve quality standards at universities. Excellence initiatives can also be financed by international organizations (the World Bank) like in case of some countries in Western and Central Africa (Tongai 2013). Finally, Malaysia is famous for its practice of “university corporatization” which means that the state-owned universities are obliged to fund all own operational costs themselves in order to stimulate their competitiveness (Lee 2015).

Ukraine is an interesting case of developing system of higher education under conditions of rapid societal transformation. The general level of development of higher education system in Ukraine is still lower than of developed countries regarding international competitive status but has great potential for increasing its competitiveness and essential prerequisites for the development of globally competitive universities (Kurbatov 2012; U21 Ranking of National Higher Education Systems 2016). The main barriers in the way of effective implementation of this potential are the critical lack of universities’ financial resources and the higher education sector’s inefficient governing/management model. Development and implementation of appropriate government policy priorities and strategic objectives in the field of research and teaching involving the establishment of globally competitive universities in Ukraine, with active institutional and financial government support, can become a foundation for increasing national universities’ competitiveness and the national higher education system in general in the global market. This can be seen from the examples of Republic of Korea (The Ministry of Education, Science and Technology 2009) and Kazakhstan (The Ministry of Education and Science of the Republic of Kazakhstan 2010).

Investment of public funds into the development of research potential of leading Ukrainian universities is one of the most efficient ways for the implementation of the national strategy for world-class universities development in Ukraine (“depth strategy”). Also, Ukrainian government might need to create favorable conditions for the evolutionary improvement of the domestic university sector. This may involve decentralization and modernization of higher education governing/management structures, universities’ sustainable funding, creating real competitive environment in this sphere, promoting intensification of knowledge transfer between universities (both: business and public), raising social status for teachers and researchers, stimulating innovation and international publication activity, etc. (“breadth strategy”).

In general, studies show that modern university can be globally competitive in the case when it is provided with opportunities for engaging its talented researchers, teachers, and students, with sufficient quantity and quality of material/financial resources, infrastructural base, and with effective governing/management model (Altbach 2011). Concerning limited resources, institutional and fiscal government support aiming at modernization of university sector and promotion of its evolutionary quality development are crucial. Global competitive advantages are achieved by universities in those countries where combined (“breadth-depth”) national strategies for competitive universities development are successfully implemented, and the level of expenditure on higher education per student is relatively significant. The national system of higher learning in Ukraine has great potential for its development, a more productive utilization of which with appropriate government support can become a foundation for establishing globally competitive domestic universities.

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Chapter 13

Good University and Excellent Professor: Competing Quality Perspectives in Higher Education



Mati Heidmets, Maiki Udam, Kätlin Vanari and Birgit Vilgats

For decades, possible ways of bringing higher education studies more into line with the society's expectations have been sought (European Higher Education Area 2005). At the same time, "society" is not a coherent whole with universal expectations: it is composed of very different interest groups. Burke has divided the main interest groups in higher education into three: state, professional communities (academia) and market forces, including employers, potential students and their parents (Burke and Associates 2005). Both theoretical discussions and the external evaluation practice reveal that the expectations of different interest groups may not only differ but sometimes even contradict each other. According to Burke:

...responding to state priorities, academic concerns and market forces offers a challenge, not a choice, for higher education. Colleges and universities, private and public, must serve all but submit to none of these imperatives. (Burke 2005a, p. 296).

At the same time, there are few empirical studies describing the expectations of different parties for the university and, accordingly, for the external evaluation of higher education.

Change in instructor's roles. Along with the university, teaching staff is also becoming an assessment unit in the context of concerns that the position of a university lecturer is degrading and changing from "an honourable intellectual to a knowledge worker" (Bogt and Scapens 2012). The assessors of lecturers' work also face a challenging task: assessments made from different positions are not coherent, the views of students need not exactly match with those of the university's administration, and the perceptions of the lecturer community differ from both (Mägi et al. 2013; Keeley et al. 2012). Expectations vary from "being a good researcher" to treating a lecturer as an intellectual leader, a pastor (Nichols 2012) or even an "academic superhero" (Pitt and Mewburn 2016). Researchers have referred to gender-based and ethnicity-related differences in the assessment of lecturers' work (Smith and Anderson 2005), and it has also been emphasised to what extent

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lecturers follow ethical principles in their work (Kuther 2002). Assessment forms which would enable institutions to receive feedback on lecturers' work, on one hand, and support lecturers' self-development, on the other, are being sought (Espenberg et al. 2013). The policy-shapers and administrators of higher education place importance on underlining the evaluation upon deciding the efficiency of lecturers' work in the evaluation of their work performance (*judgemental types of professional evaluation*), but the academic community itself has rather emphasised the approach that supporting lecturers' self-development is of central importance (*developmental types of professional evaluation*) (Bogt and Scapens 2012). Schemes helping students to give public assessments regarding the lecturers—*ratemyprofessor*—have been treated separately (and often from a critical angle) (Peterson et al. 2011). Indeed, it can be considered that assessing lecturers' work is a substantially contradictory activity, trying to match academic freedom with external inspection.

The case of Estonia. Assessment of universities' activities as well as lecturers' work is high on the agenda also in Estonia. Teaching staff of Estonian higher education institutions is characterised by a relatively high proportion of lecturers older than 55 years (27%) and low proportion of lecturers holding a doctoral degree (47%). In connection with the recent amendment of the Universities Act replacing fixed-term employment contracts with contracts of indefinite duration as of 2015, changes in assessing lecturers' work are also inevitable. Here, it is strongly felt that the assessment of lecturers' work in the way it is carried out today is disproportionately inclined towards the scientific component. Lecturers are assessed on the basis of the indicators of research, but most of their time and energy is devoted to teaching (Mägi et al. 2013). In assessing the work of the teaching staff in universities (including during the process of recruitment), the quality of teaching work will be taken into account, including its international aspect. This includes having work and teaching experience in foreign universities, participation in international development programmes, development of curricula in a foreign language, teacher effectiveness and students' feedback, the teacher's self-development. This also includes the results of academic research carried out by the staff (Estonian Lifelong Learning Strategy 2020 2014).

Previous experience in the implementation of different assessment forms and methods in higher education indicates that the idea of the quality of higher education as a relatively homogeneous and a clearly identifiable construct has begun to diverge—quality assessment is increasingly dependent on the assessor and the dimension to be assessed. Whose assessments are decisive, whose “expectations” should be taken into account first? In the case of assessing a university, should they be employers (as many politicians and education administrators believe) or the academic community itself? In the case of assessing a lecturer, should they be students or top scientists of the relevant speciality? Presentation of different standpoints in external assessment as regards both the university and lecturers is an important topic which has, however, received relatively little attention.

During the period 2010–2012 and 2012–2015, two studies were carried out with the intention to map the expectations of different parties towards higher education

institutions and lecturers. The first one was carried out within the framework of a doctoral thesis “Meeting State, Market and Academic Concerns: challenge for external quality assurance of higher education institutions. Estonian case” (Udam 2013), the other as part of a study “Õppejõudude töö hindamine” (Assessment of lecturers’ work) of the programme “Primus” (2008–2015) financed by the European Social Fund and implemented by the Archimedes Foundation.

As follows, we have presented the main results of these two studies and discussed the differences and concurrencies in the expectations of different parties towards the university and lecturers.

Study I—What Would a “Good University” Look like?

The aim of the empirical study conducted in 2010–2012 was to describe the expectations to a university by representatives of the state, the market and the academic community in Estonia, and to identify where those expectations overlap and where they are in conflict (see also Udam and Heidmets 2013). To answer the research question “What are the characteristics of a good university?” the method of focus group interview was used. Burke’s triangular model (the so-called accountability triangle, deriving from Clark’s (1983) “triangle of coordination”) of state priorities, market forces and academic concerns (Burke 2005b: 23) defines the main actors in higher education as follows:

- “State” represents the government, including state governments, minister as well as ministerial officers, and local governments.
- “Academia” or “academic oligarchy” is defined as representatives of the academic community: professors, lecturers, deans, directors of institutes, as well as top managers of institutions.
- “Market” is seen as students and their families, as well as potential employers of the graduates (Burke 2005b; Dill and Beerkens 2010).

The sample was prepared based on the above-described accountability triangle principles, trying to find individuals who would represent state, market and academic positions, respectively. We decided to divide the “academia” group into two subgroups—rectors of higher education institutions and full-time academic staff. As to the “state” group, we decided to include into the sample representatives of the government, government offices and local government organisations. The “market” group was divided into three subgroups—(a) entrepreneurs and top executives of public and private firms; (b) students; and (c) high school students. While selecting the interviewees, we tried to include representatives from different types of institutions as well as a variety of positions (academic staff) or study levels (students). The interviews were conducted by two interviewers in order to increase the reliability of the results.

There were five focus group interviews with “academia” representatives—one with rectors of higher education institutions (9 participants) and four with teaching staff, mainly programme leaders (22 participants), from all types of institutions. Two focus group interviews were conducted with “state” representatives (9 participants)—both of them included representatives of ministries (altogether 5 ministries out of 11 were represented), government offices and local governments (a mayor and a county governor). Five focus group interviews were conducted with representatives of the “market”, three of them with entrepreneurs and top executives of public and private companies (16 participants) and two with high school students from different parts of Estonia (10 participants). In addition, there were two focus group interviews with students (11 participants) where the representatives from both universities and professional higher education institutions were present. In sum, there were 14 focus group interviews carried out with 77 persons.

To interpret the interviews, summative content analysis was used, involving counting and comparison of the (mostly) predetermined characteristics (Hsieh and Shannon 2005). All interviews were transcribed. After that, all characteristics named during the interviews were classified into 37 categories. When one theme appeared more than once during an interview, it was counted each time as a separate mention (node) (Udam and Heidmets 2013: 215–216).

Table 13.1 presents the frequency of nodes of different characteristics of “*a good higher education institution*” by different stakeholder groups. In the table, the number of nodes of the corresponding characteristic has been divided by the number of focus groups conducted with the state (5), market (2), academic community (5) and student (2) groups. Thus, the numerical values in the table represent the average frequency of nodes of the corresponding (quality) characteristic during one focus group. The larger the average number of nodes, the more important that quality characteristic was for the corresponding group.

Students are shown in a separate group for the reason that they differed significantly from the rest of the market group on several assessments. The table does not include the characteristics that were mentioned very rarely, but only the characteristics with total of more than one mention have been included.

The findings indicate that the given four parties differ significantly on their interpretations of the characteristics of good higher education. For the representatives of the *State* group, the quality meant first of all cooperation with employers and other institutions, followed by the successfulness of graduates. Other more frequently mentioned quality characteristics included institution’s ability to prioritise and focus, qualifications of teaching staff, institution’s history and traditions, as well as its openness and external communications.

In the *Academia* group, for the representatives of the *academic staff* subgroup, the only clearly output-related characteristics were those related to research and development: research grants, publications, citations. All other characteristics were dominantly focusing on internal processes and conditions: appropriate management and strategic planning, openness and communication (especially efficient internal communications about changes in various academic requirements and procedures), and the condition of infrastructure.

Table 13.1 Interpretations of “*a good higher education institution*” by representatives of state, market, academia and students (Udam and Heidmets 2013: 218)

Quality characteristics	State	Market	Academia	Students	Sum	Average
Successfulness of graduates	4	4.6	1.8	0	10.4	2.9
Openness and communication	2	0.4	3.8	1.5	7.7	2
Qualification of teaching staff	2.5	3	0.6	1.5	7.6	1.9
Cooperation with employers and other (foreign) institutions	4.5	2.6	0	3.5	9.6	1.7
Condition of infrastructure	1	0.4	1.2	4	6.6	1.3
Learner-centeredness	0.5	1.4	0.4	3	5.3	1.1
International involvement	1.5	0.8	0.6	2	4.9	1
Management, strategic planning	1	0.4	1.8	0.5	3.7	1
Opportunities for social life	1	0.2	0	3.5	4.7	0.8
Teaching methods	0	0.4	0.6	3	4	0.8
History and traditions	2	1	0.4	0	3.4	0.8
Reputation of teaching staff	0.5	1	0.8	1	3.3	0.8
Research grants, publications, citations	1.5	0.6	1.2	0	3.3	0.8
Academic climate	1	0	0.4	3	4.4	0.7
Institution’s ability to prioritise and focus	3	0.2	0	0	3.2	0.5
Student support system	0.5	0.6	0.2	1	2.3	0.5
Admission competition	1	0.8	0.2	0	2	0.5
Recognition of study programmes	1	0.8	0.2	0	2	0.5
Qualification of students	0.5	0.8	0.4	0	1.7	0.5
Institution’s position in league tables, international reputation	0	1	0.2	0	1.2	0.4
Interdisciplinary study programmes	1.5	0	0	0.5	2	0.3
Integration of subjects	0	0	0	2	2	0.3
Students’ involvement in R&D	0	0	0	2	2	0.3
Content of study programmes	0	0.6	0	0.5	1.1	0.3

The subgroup of *Rectors* of higher education institutions had somewhat different priorities than academic staff members. For them, most important were qualifications of students (student candidates) and teaching staff, the condition of infrastructure, the happiness and successfulness of graduates (not mentioned by academic staff at all), coherence between strategic objectives and existing means. Openness and communication (especially external communications) was also mentioned more than once.

In the *Market* group, the *Employer* subgroup emphasised the importance of results, especially the successfulness of graduates. In addition, a very important factor for them was qualifications of teaching staff. They also mentioned “institution’s reputation”, explaining this as its history and traditions; admission

competition; reputation of teaching staff, e.g. how many of them have won prizes; and institution's position in league tables (rankings, ratings).

The subgroup of *High school students* mentioned the following aspects as quality characteristics of a higher education institution: learner-centeredness, e.g. an individual approach to scheduling, the successfulness of graduates in the labour market (both nationally and internationally), qualifications of teaching staff ("good teachers"), "reputation"—explained as institution's position in league tables and admission competition.

For the *Student* subgroup, quality was understood as condition of infrastructure, opportunities for social life, cooperation with employers and other (foreign) institutions, academic climate—collegiality between students and teachers, learner-centeredness, and teaching methods. Surprisingly students did not mention any result or output characteristics—e.g. successfulness of graduates—which in principle exclude them from the market group, and therefore, their results are presented separately.

According to the results of the interviews, the students are positioned somewhere between the market and the academia but cannot be directly considered either of them. As already mentioned, unlike the academia or the market, the students did not mention anything related to the graduates' successfulness, research results or other outputs at all. Similarities with the *market*, especially with the potential students, were the characteristics of qualified teaching staff and possibilities for flexible learning paths (learner-centeredness); similar to the *academia* was "condition of infrastructure".

Comparing the three most frequently expressed characteristics (dominant characteristics) by each stakeholder group, the results are as follows:

- State: cooperation with employers and other (foreign) institutions (4.5 nodes), the successfulness of graduates (4), institution's ability to prioritise and focus (3);
- Market: successfulness of graduates (4.6), qualifications of teaching staff (3), cooperation with employers and other (foreign) institutions (1.6);
- Academia: openness and communication (3.8), management and strategic planning (1.8), the successfulness of graduates (1.8);
- Students: condition of infrastructure (4), opportunities for social life (3.5), cooperation with employers and other (foreign) institutions (3.5) (Udam and Heidmets 2013: 219–220).

The findings show that different parties' interpretations and expectations for higher education quality (of a good university) differ significantly. The following **main differences** may be highlighted.

The stakeholder positions are most distinctive on the following themes/categories. The "market" considered the successfulness of graduates the most important indicator, while the students did not mention it a single time. Cooperation with employers and other (foreign) institutions was equally important for the state, the market and the students, but was not mentioned by the academia. While an

institution's capability to prioritise and focus was important for the state, its importance was marginal or non-existent for the other parties (marginal for the market and non-existent for the academia and students). Unlike all other parties, the academia valued most the openness of a higher education institution, primarily the transparency in bureaucracy and internal communications (Udam and Heidmets 2013: 221).

The different parties had the **most similar views** about the following quality aspects: international involvement and qualifications of teaching staff. Surprisingly, the characteristics concerning study programmes were unimportant for all parties—e.g. content of study programmes, existence of interdisciplinary study programmes, recognition of study programmes and integration of subjects, got surprisingly few mentions.

It may be presumed that different emphases that parties place when interpreting the “goodness” of a university first and foremost arise from the interests and aims of their status—for academic staff and the students the organisation of a university's everyday life is of crucial importance; from the representatives of the market value reputation and outputs; and from the state's point of view the so-called big picture—the higher education scene—is essential, e.g. a proper division of labour and practical management of resources (Udam and Heidmets 2013: 222).

Study II—Who Is an “Excellent Professor”?

The aim of the study was to map the assessment criteria for lecturers' work used in public universities of Estonia, and to describe the opinions of both students and lecturers on the importance of the assessment criteria regarding lecturers' work. The study comprised two stages. The first step was to analyse normative documents pertaining to the assessment of lecturers' work in six public universities in Estonia. The basis for the analysis was a table of lecturers' assessment criteria following the procedure for institutional accreditation (2011) and the aspects of the University Teacher Competency Model (2011), reflecting the four main fields of lecturers' work: teaching and learning; research, development and creative activity; social relations; and organisational development. Separate criteria were highlighted in each main area, 31 in total.

For the document analysis, normative documents regulating the above-mentioned five forms of assessment, 27 documents in total were collected from all universities. Then, documents were analysed following the assessment criteria brought in Table 2 separately in all five assessment forms (selection of candidates to positions, evaluation, annual assessment of the effectiveness of work, determination of remuneration and recognition). The analysis was carried out separately by the positions of all lecturers, but the result of the analysis demonstrated that requirements for different positions form two groups of similar requirements—requirements for professors and associate professors are relatively similar and comparable, as well as those for the lecturers, teachers and assistants.

Table 13.2 Assessment criteria of lecturers' work in the public universities of Estonia

CRITERION	Frequency of occurrence	
TEACHING AND LEARNING		
Experience in pedagogical work and the competence for teaching in a higher education institution	very common	
Experience in supervising student papers	Prof/associate prof	very common
	Lecturer/teacher/assistant	rather common
Knowledge of modern teaching equipment and teaching methods	Prof/associate prof	rather common
	Lecturer/teacher/assistant	rather not common
Compiling methodological auxiliary materials, teaching equipment and instructional materials	Prof/associate prof	rather common
	Lecturer/teacher/assistant	rather not common
RESEARCH, DEVELOPMENT AND CREATIVE ACTIVITY		
Experience in (international) research	Prof/associate prof	very common
	Lecturer/teacher/assistant	rather common
Success in application for and management of research projects	Prof/associate prof	very common
	Lecturer/teacher/assistant	not common
Publishing at least a certain number of research publications	Prof/associate prof	very common
	Lecturer/teacher/assistant	rather not common
Participation in the activity of research organisations	rather common	
Organisation of field-based conferences	rather common	
SOCIAL RELATIONS		Current practice
Popularisation of an academic field or a creative field, introduction to the public	Prof/associate prof	very common
	Lecturer/teacher/assistant	rather common
Membership in professional associations	Prof/associate prof	rather not common
	Lecturer/teacher/assistant	not common

Table 13.2 (continued)

Participation in working groups, organisations outside the university as an expert	Prof/associate prof	very common
	Lecturer/teacher/assistant	not common
ORGANISATIONAL DEVELOPMENT	Current practice	
Participation in the work of academic and administrative bodies	Prof/associate prof	very common
	Lecturer/teacher/assistant	rather common
Ensuring new generations of researchers, supervising other lecturers	Prof/dots	very common
	Lecturer/teacher/assistant	not common
Participation in study programme development	rather not common	
Professional development	very common	
Creating and maintaining international cooperation	rather common	
Performing management functions	Prof/associate prof	rather common
	Lecturer/teacher/assistant	rather not common

As the second step, a written questionnaire was drawn up on the basis of the analysis of normative documents regulating the work of lecturers. Questions described the scale of importance of different assessment criteria in the perception of the respondents in the reality of their universities today, and which assessment criteria need to be made more important, and which less important. Questions were answered in Google Drive environment.

Sample

In total, 176 people replied to the questions: 52 lecturers and 124 students from four public universities in Estonia. Sample was not representative as it was a pilot study—it offers examples of the attitudes and perceptions of students and lecturers, but the results cannot be generalised as relevant to higher education as a whole in Estonia. Twenty per cent of the respondents were men, and 80% were women. By age groups, most respondents were 20–34-year-olds (49%) and 35–50-year-olds (34%).

Results

Step 1. Formal assessment criteria

Table 13.2 provides an overview of the prevalence of the assessment criteria of lecturers' work. The occurrence of the assessment criteria in all five assessment forms (selection of candidates to positions, evaluation, annual assessment of the effectiveness of work, determination of remuneration and recognition) has been taken into account. The frequency of use/spread of the criteria in universities was characterised on the basis of the frequency of their occurrence in regulations:

- Very common—in use in 5–6 universities;
- Rather common—in use in 3–4 universities;
- Rather not common—in use in 2 universities;
- Not common—in use in less than 2 universities.

By lecturers' positions, data on the frequency of occurrence has been given in case there are differences.

In the course of working with the questionnaire, both lecturers and students were asked to assess the assessment criteria that are currently in use (and listed in Table 13.2), as well as to give their opinion on which criteria require an increase in importance, and which require to be considered less important. As a result of cluster analysis, the assessment criteria set out in Table 13.2 divide into three groups: the first one includes all criteria related to teaching and learning, the other includes research-related criteria, and the third group includes all that could be called participation/activity, activities reflecting what the lecturer is doing in organisations and activities both in and outside the university.

Figure 13.1 demonstrates lecturers' and students' assessments regarding the current situation—the scale of importance of three groups of assessment criteria in their opinion. The answers have been presented as average values on a five-point scale (1 = completely unimportant; 5 = very important). As shown, students considered the criteria related to teaching and learning the most important (4.21), whereas for lecturers, criteria related to research, development and creative activity were most important (4.16). In lecturers' opinion, criteria related to participation/activity are the least important (2.87). Students assessed the criteria related to RDC as the least important (3.14). In students' opinion, the most important assessment criteria result from teaching and learning, followed by participation/activity and then RDC. From the lecturers' point of view, the order is reverse—RDC as the most important, then teaching and learning, and finally participation/activity.

Figure 13.2 represents the expectations of the lecturers and students regarding changes in the situation. The respondents most wished for an increase in the importance of criteria related to teaching and learning, both among the students (4.11) and the lecturers (4.13). The need to change the participation-/activity-related criteria was considered to be more important than the need for changes in the importance of RDC criteria.

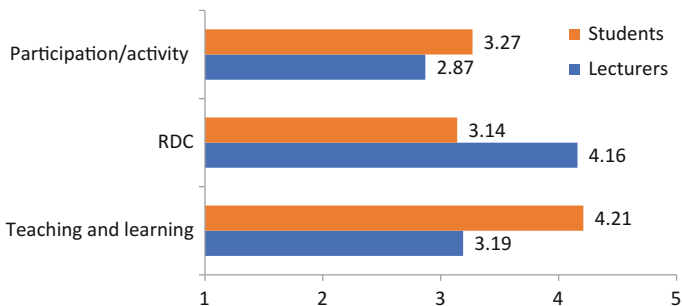


Fig. 13.1 Lecturers’ and students’ assessments regarding the importance of teaching and learning, RDC, and participation/activity in the assessment of lecturers’ work: current practice

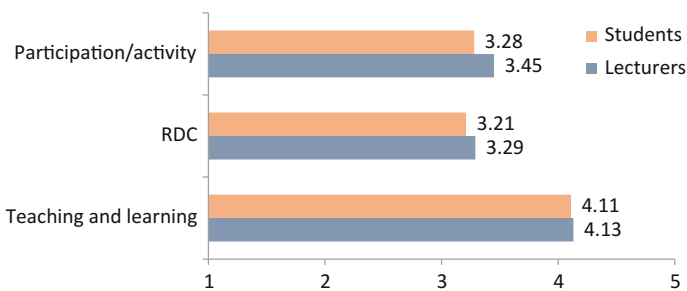


Fig. 13.2 Lecturers’ and students’ assessments regarding the importance of teaching and learning, RDC, and participation/activity in the assessment of lecturers’ work: desired changes

Upon the examination of the difference between the lecturers’ and students’ assessments by a *t* test, a statistically significant difference occurred as regards all three characteristics describing the current situation. Students considered the criteria related to teaching and learning and to participation/activity more important, in comparison with the lecturers. Lecturers, however, considered research work more important. As regards future trends, statistically important differences in lecturers’ and students’ assessments did not occur.

The obtained results denote significant differences between the lecturers’ and students’ assessments. Lecturers perceive research, development and creative activity as the main measure of assessing their work; at the same time, students believe that it is teaching and learning. Such difference in perceptions might be understandable as students meet the lecturers mostly through teaching and learning, not through research, development and creative activity. Also, students assess the performance of lecturers through feedback on teaching; therefore, students “feel” that teaching is the main task of lecturers and the measure of their activity. The results of the questionnaire also show that the tension between the two roles of a lecturer—those of a researcher and a pedagogue—under discussion everywhere in

the world is clearly perceptible also in Estonia. For lecturers, the clear dominant in current assessment practice is research. It is likely, however, that this general trend includes different attitudes—the study demonstrated a statistically important negative correlation between the aggregate indicators of the valuation of teaching and learning ($r = -0.24$, $p < 0.05$) which indicates that within the body of lecturers there are groups placing more importance on criteria related to teaching and learning, as well as groups prioritising research.

Conclusions and Discussion

Evaluating a university and its central players—the lecturers—along with the selection of assessment criteria is not merely a bureaucratic routine; in practice, it means the determination of expected/preferred development trends and motivating development. If lecturers are assessed on the basis of their research publications, it encourages to write and publish more; if the quality of teaching becomes a criterion, it motivates to renew teaching methods and instructional materials. If the first measure in assessing a university is the number of students, it makes the university grow; however, if the success of the graduates on the labour market is important, the need arises to cooperate with the employers. The assessment criteria are important; at the same time, both of our studies refer to a situation where a common and shared understanding of a “good university” or an “excellent lecturer” does not exist. Different parties—employers, lecturers, students, rectors—have differing, sometimes even contradictory perceptions. Despite the restrictions resulting from the samples of both studies, two topics causing disputes and tensions in Estonia today could be brought out.

First—tensions on internal life of the university versus expectations outside the university axis. Three different positions emerged, regarding the wish “to link university operations more firmly with society’s expectations” that is politically highlighted. The strongest support for this development track comes from the actors outside the university—expectations by state institutions and the labour market. They value output indicators—success of the graduates on the labour market, cooperation with employers. This development trend is most sceptically viewed by university lecturers: they are mostly inward-oriented, considering the atmosphere in the workplace, work organisation, flow of information, research to be important. The concerns of employers or politically set wider targets (serving the society) are not the key issues for the majority of lecturers. Management staff of the university (rectors) sways between these two positions. So do students who consider both the intra-university measures (learner-centeredness, infrastructure) as well as cooperation with employers to be quality indicators. In other words—actors outside the university impose greater openness and willingness to cooperate with the world of work, lecturers are more interested in internal topics, and the management staff and students wish to bring these two positions together.

Second—tensions on research versus teaching and learning axis. As regards the assessment of lecturers' work, both students and lecturers have similar expectations—the quality of teaching should be much more valued in the assessment process. The situation today, where lecturers are mostly assessed on the basis of research results, but the major part of their duties consists of teaching and learning, is not satisfactory. One of the reasons for the development of this situation is definitely the fact that it is easier to assess research, development and creative activity—there are clear criteria (in many Estonian universities, e.g. three high-level research publications within five years). The assessment criteria for teaching and learning are more vague and ambiguous, often process-centred (e.g. compilation of syllabi, knowledge and use of modern teaching methodologies, admission of examinations and pass–fail assessments) and therefore more difficult to assess and compare.

There is no doubt that the quality of research is the first indicator of the level of a university lecturer. At the same time, one should not be limited with that the understanding that a good scientist equals an excellent lecturer is often invalid and creates opposition. The prevalence of criteria based merely on research is perceived as an assessment basis that is outside-imposed, especially by students. Both of our studies revealed that students did not consider the results of research and development (as the assessment basis for lecturers' work) important—in the first study, none of the students pointed it out. Within the study conducted in 2014 by four states (Switzerland, Ireland, Croatia and Estonia) (Udam et al. 2014), research and development criteria also remained at the end of the list of indicators considered important by the students—on the 13th place among 16 criteria.

The result demonstrating that the content of study programmes did not happen to be one of the important quality criteria for none of the surveyed party can be considered surprising. In this regard, our results differed from the study conducted in 2014 by four states (Udam et al. 2014) where the content of teaching and learning became the central criteria of the “quality” of a university. This may be caused by different research methods: in the study in four states, the respondents had to choose from a given list of criteria, whereas in our study, the respondents needed to offer the assessment criteria themselves.

Tensions that became apparent in our two studies on the internal life of the university vs expectations outside the university axis and on the research versus teaching and learning axis actually form a part of a wider international debate on the university's role in an open and market-centred world—to what extent should the university focus on the external, above all, market-related expectations (including redesigning the study programmes as output-based, involving employers in study programme development, offering their own “products” to the market) and to what extent should the university remain the creator of discipline-based knowledge, independent of the market forces. Intense exchange of views regarding this issue is taking place, and there are ardent advocates of the university “facing the society” with emphasis on student employability, as well as those having doubts and feeling sceptical (Young 2008). On the basis of Estonian experience, including the tendencies described in our studies as well as the current practice of assessment of

higher education, three facts related to the assessment of higher education could be brought out for wider discussion.

Quality of teaching! Since the turn of the century, the central assessment criterion for the universities as well as for lecturers has been precisely the quality of research. Teaching and learning (and the quality of it) has stayed in the background. In recent years, efforts to balance these two elements of university life can be witnessed. Estonian experience indicates—students in particular are interested in enhancing the quality of teaching and learning (teaching methods, learner-centeredness), and they can be relied on in highlighting teaching and learning. Adding value to teaching and learning has also received political support, and Estonian education strategy includes an objective to equalise the indicators on lecturers' research work (international research publications) with the results of teaching and learning carried out by them in the assessment of lecturers' work. Similar developments are taking place also in other countries (vt *Current and Future Trends in Higher Education 2006*). The British consider taking relevant measures to introduce a new “teaching excellence framework” (TEF), “which would rate universities on the quality of their teaching... Most intriguingly, universities that did well in the TEF would be allowed to raise their tuition fees in line with inflation” (University Reform, 2015).

At the same time, there are messages urging caution—Bogt and Scapens (2012) observed in their study on the basis of universities in the UK and the Netherlands that in the search for balance between the criteria describing research and teaching, taking into account the activities targeted at the society in the work of the lecturer and the whole university often becomes less common. When tensions become resolved on one axis (research—teaching and learning), they may increase on another axis (university—society).

However, Estonian experience demonstrates that movement towards greater valuation of the quality of teaching and learning is a positive direction for the development both in academic and political terms. This is a modern challenge for external assessors as well as for the authors of internal regulations of universities. Research, and teaching and learning are two key activities of universities, which have always rivalled each other in the academic community. Balanced assessment of these two activities is an opportunity to advance these activity fields together (Townley 1999).

Professors as key players! Practice in Estonia demonstrates—universities' movement towards greater openness and “serving the society” primarily denotes a change in the attitudes that prevail among teaching staff, including a shift in the understanding of the essence of knowledge created and disseminated by the university, movement from pure academic knowledge “to interdisciplinary, team-based, practical-problem engaged knowledge” (Barnett 2009). This, in turn, requires that the lecturers rethink their role—they are no longer just the creators and mediators of knowledge but also participants in putting this knowledge into practice. For initiating relevant changes, the so-called interdisciplinary projects are being included in the study programmes of Estonian universities, which offer

possibilities for students and lecturers of different fields to participate in solving important issues.

Change of attitude among the lecturers is encouraged by a more concrete expression of students' expectations as well as the establishment of position and support of the management staff of the university. Although student feedback surveys have also been viewed sceptically (European University Association 2015; Bogt and Scapens 2012), it is still a channel that urges innovation in the content and methods of teaching and learning. The same can be stated as regards changes in the willingness of heads of academic institutions to be assessors and supporters of innovations—courses, experience cafes, etc. (European University Association 2015).

Voice of students and employers! As both of our studies indicated—a good university and an excellent professor largely depend on the assessor as the “repertoire” of expectations towards the university and the lecturers is diverse. This poses a challenge for both internal assessment and for the external assessors of higher education. Whose expectations and understandings are more important, whose opinions should be given prevalence to? The experience of Estonia suggests that the validity is determined by the society's expectations for higher education as a whole, what is considered to be an “important task” during the relevant time period. In the 1990s, the central topic in Estonia was the “regulation of the university landscape” and, accordingly, higher education institutions began to be assessed on the basis of their economic sustainability, requirements were imposed on the size of the equity capital, etc. In the 2000s, harmonisation of the quality requirements between the universities came up; the new assessment criteria were lecturers' compliance with national requirements, the structure of study programmes as well as students' satisfaction with teaching and learning. Today, the “turn towards the society” with more emphasis on learner-centeredness has gained importance (Estonian Lifelong Learning Strategy 2020 2014). Greater service to society is trending in higher education everywhere in Europe. In the renewal of the European quality agreement, relations with the society- and student-centred teaching have become the subject of focus (EQUIP 2016). Thus, under the present circumstances, messages coming from the employers and students could be considered somewhat more “weightier”. We can get an idea of the direction where the universities could be heading in the coming decade from the assessment criteria considered important by them.

In the context of external evaluation in higher education, the results of our study could mean greater trust especially in those universities where relations with the world of work (joint study programme development, internship, feedback from the graduates) have become a routine and where the students' voice is influential inside the university both in assessing the quality of teaching and learning and in the operation of the organisation. As the general trend in external evaluation is to move from the external control (accreditation) increasingly towards supporting and trusting the internal quality system of an educational institution, it could be stated that those universities deserve to be trusted where relations with the world of work are functional and where the student community has become an acknowledged

party in the development of the university. External evaluation thus supports the turnaround occurring in higher education in many countries: (re)valuation of teaching along with the universities turning their faces towards the society.

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Chapter 14

Science and Higher Education in Poland: Changing Rules



Adam Borkowski

The situation of higher education in Poland needs to be viewed from a historical angle. After losing its independence at the end of the eighteenth century, Poland was divided almost 150 years between Russian, Austrian and Prussian empires. Academic life in those countries followed different patterns, and minor relicts of them are still traceable in Warsaw, Cracow and Poznan—the main cities of the parts of Poland administered by each of the empires. During the short period of independence between the First and the Second World Wars, Poland was firmly oriented towards Western Europe. Polish universities regained their autonomy at that time, and academic life followed to a large extent the French fashion.

As the result of Yalta Treaty, Poland was incorporated in 1945 into the Eastern Block controlled by the Soviet Union. Under the communist regime, science and higher education were administered in Poland similarly as in other countries belonging to this Block, although in a less restrictive way. Polish universities were given more independence than universities in the Soviet Union. Polish scientists could travel to the West, attending conferences and conducting research funded by such institutions like the Alexander von Humboldt Foundation or the Fulbright Foundation.

Science and Higher Education in Contemporary Poland

After democracy was re-established in Poland in 1989, an open discussion about drawbacks in organizing scientific research and higher education became possible. Despite the changes introduced ad hoc in 1989–91, the system still retained many

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features typical of the ancient regime and, hence, it was heavily criticized. In particular, the following questions were raised:

1. To what extent administrative bodies should interfere in the choice of research topics by scientists?
2. How should public money be distributed among universities, research institutions and individual researchers?
3. How should institutions conducting research be structured? In particular, do we need the Polish Academy of Sciences (pol. PAN)?
4. How should the higher education sector be organized? In particular, on what terms commercial high schools should act?
5. What profile of professional carrier is preferable? In particular, do we need the second scientific degree?

Such discussion lasted over a decade until the Minister of Science and Higher Education Prof. Barbara Kudrycka enforced a general reform of the system. This reform was incorporated into a series of laws approved by the Polish Parliament (pol. Sejm) during the period 2003–2011. In the sequel, the main features of the new system will be discussed.

Restructuring Institutions

Let us consider the domains of research and higher education separately. Before the reform, the research domain encompassed research units belonging to PAN, or to a university, or to a Government Ministry. The last units were seen as the research and development background of a specific branch of industry, so they were supervised by the Ministry responsible for this branch. Such institutes were called Research and Development Units (pol. JBRs).

The main research effort was carried out by the institutes affiliated to the Academy (PAN-institutes) and those belonging to universities (UNI-institutes). Since chairs were replaced by institutes at almost all Polish universities, UNI-institutes clearly outnumbered PAN-institutes. However, ranking lists, appearing numerous after 1989, showed an advantage of PAN-institutes regarding the quality of research (staff, publications, etc.). Researchers working at PAN and universities competed for resources allocated by the Government (e.g. salaries, grants, laboratories). This led to a certain tension between both groups. After the Government had announced its will to reform the science sector, prominent representatives of university milieu demanded that PAN should be abolished and that PAN-institutes should be incorporated into universities.

Fortunately, this radical step was not accepted by the Parliament. The 2010 law on the Polish Academy of Sciences (2010a) retains its twofold character. On the one hand, PAN is a corporation of 350 members (full, corresponding and foreign).

On the contrary, it is a research agency comprised of 79 units (institutes, research centres, etc.). PAN under the new law consists of five Divisions (Humanities and Social Sciences; Biological and Agricultural Sciences; Mathematics, Physics, Chemistry and Earth Sciences; Engineering Sciences and Medical Sciences). Each Division consists of the corporative part led by a Dean and a research part led by a Council of Provosts. Such solution seems to be reasonable because the priorities of each part of the Academy differ. Self-governance is the most critical value for the corporation of scientists, while the part conducting research needs proper management and conformity with the policy of the state.

The law on research institutes (2010b) applies to units that are neither PAN–nor UNI-institutes. Many of JBRs were dissolved, but the best of them adapted themselves quite well to the market economy. They meet requests on applications from the domestic industry, compete for national and European grants, cooperate with PAN- and UNI-institutes.

Issues related to institutions of higher education were regulated by the law (2005) modified later in the bill (2011). The Polish nomenclature was brought in conformance with the naming conventions in the European Union, a two-stage scheme (bachelor and master) was introduced, and some changes were adopted in the administrative structures (e.g., a position of Chancellor, helping Rector on administrative issues, was introduced).

During the discussion preceding the reform, some controversy regarding the role of non-public institutes of higher education was noticeable. After 1989, over 200 of such institutions were founded in Poland. They were run on commercial grounds taking a fee for studies and offering bachelor and master diploma in such fields, like management, law, business and administration, computer science. An uncontrolled expansion of the higher education sector had a devastating effect: most of the new schools “borrowed” the staff from public universities, and some of them had poor curricula and non-fair fees. The new law eliminated many distortions. At present, a person employed at the university and willing to take a position at other institution needs the permission of Rector. Leading universities adopted a rule that such authorization is given as an exception and not more than once (under previous law, some professors were employed at 3–4 high schools).

Under the present law, all units in the sector of higher education are supervised and periodically evaluated by the Ministry of Science and Higher Education (pol. MNiSzW). An independent board, called the Polish Commission for Accreditation (pol. PKA), reviews applications for opening of new schools and evaluates existing schools. By such evaluation, the Minister allows the university to run bachelor and master studies on specific disciplines. A stronger control by the state eliminated most pseudo-universities. The number of non-public high schools decreases at present rapidly. This reduction is also caused by the lack of students—the result of a low birth rate 20 years ago.

Planning and Financing Research

Until 1989, planning and financing research was to a large extent centralized. Most funds were distributed by the Ministry within the framework of the so-called Central Research Programs (pol. CPBPs), planned and executed in a period of 5 years. After Poland was restored to the democratic system, planning research was abandoned, and the distribution of funds was shifted to the Committee for Scientific Research (pol. KBN). This new body was independent of the Government, its members were elected by the scientific community, and money was distributed through individual grants evaluated by the panels of KBN in a peer-review manner.

During first years, the new system worked quite well, and scientists were satisfied by full freedom in choosing a subject of research and by self-governance in funding it. However, gradually the disadvantages of this funding scheme became apparent. Limited funds assigned by the Government inclined the KBN to discriminate large and costly projects. This led to the disintegration of the research community: it became almost impossible to form larger research groups for solving problems that are interdisciplinary in their nature. Directors of research units were not able to steer them efficiently because it was hard to predict who will win a grant and what will be the subject of this project. Moreover, theoretically, fair system of electing the members of the KBN was soon replaced in practice by a struggle between informal groups and lobbies. This circumstance gave the Ministry arguments towards regaining the control over funding.

Poland in the World Context: Funding of Research

The experience of countries leading in the world suggests that to plan and finance scientific research properly one needs to keep a balance between two schemes. On the one hand, it is impossible to plan in advance new findings in science, like, e.g., a discovery of the graphene. On the contrary, large projects in science and technology, like sending a man to the Moon or building a super-collider of elementary particles, require careful planning and coordination of large interdisciplinary teams of researchers.

The reform in Poland opened both ways of planning and funding research. The part of national budget dedicated to science is distributed by two agencies. The National Science Centre (pol. NCN) (2010c) supports fundamental research. This agency is led by Director, appointed by the Minister of Science and Higher Education for at most two terms, each lasting four years. The appointment is preceded by a public call for position and by an evaluation of candidates performed by a commission appointed by the Minister.

The Director is responsible for the efficient functioning of the NCN. The rest is in the hands of the NCN Council comprising 24 members. They are appointed by the Minister for the period of two to four years: the term of the Council lasts four

years, but after two years half of the members are replaced. The way of composing the Council is rather complicated. At first, universities and research institutes propose candidates. These candidates are evaluated by the Selection Board appointed by the Minister. The Minister takes the final decision taking into account recommendations of the Selection Board and trying to achieve proper representation of all scientific fields.

The NCN Council decides how three topical areas—Art, Humanities and Social Sciences, Life Sciences, and Physical Sciences and Engineering—are to be divided into disciplines and their groups. It also announces calls for research projects. For example, at present the NCN conducts the following funding schemes:

1. OPUS—general grants;
2. PRELUDIUM—grants for young scientists;
3. SONATA—Ph.D. holder grants;
4. MAESTRO—grants for advanced scholars;
5. HARMONIA—international projects;
6. SYMFONIA—interdisciplinary grants and;
7. ETIUDA—Ph.D. scholarships.

Applications for the OPUS grants are evaluated in a two-stage procedure, similar to that known for European grants. At first, a formal compliance with the application rules is checked. These rules are not very restrictive. An application can be submitted by any research unit or even by a private person. If a project is to be carried out by a group of researchers, foreigners may be included in such a group. The most restrictive rule concerns the subject of the project. Application-oriented research is excluded from consideration.

Project proposals that have passed the formal proof are further evaluated by an expert panel. This panel may include experts from abroad. Therefore, all proposals must be written in English. Experts evaluate research achievements of the coordinator and the two principal investigators of the proposed project. This evaluation is based upon bibliometric parameters, like the Hirsch index, the number of publications and the number of cited papers. Additionally, originality of the proposal and its potential cognitive value are assessed. The outcome of the evaluation procedure is the ranking list of proposals accepted for funding. This list is published on the website of the NCN.

Application-oriented research is funded by the National Centre for Research and Development (pol. NCBiR) (2010d). This agency is managed by Director, appointed under the same rules as the Director of the NCN. The policy of the NCBiR is influenced by the two bodies: a Council and a Steering Board. The NCBiR Council consists of 30 members. One-third of them is appointed from the candidates proposed by the scientific community, one-third—from the candidates proposed by industry and finances and one-third—from the candidates tabled by the Government. The Council formulates opinions about the strategic plans for research and development of the country and conducts general supervision of the activity undertaken by the agency. Decisions on funding specific projects lie in the hands of

the Steering Board. This Board includes representatives of the Ministries of Defence, Science and Higher Education, Internal Affairs, the National Security Agency, as well as representatives of the industry.

Contrary to the NCN, the NCBiR follows a top-down approach: it finances large projects on the topics selected by the Government as current priorities in R&D. Consortia called up to carry such projects include research units and industrial partners. For example, at present, the following strategic programs are financed by NCBiR:

1. BIOSTRATEG—natural environment, agriculture and forestry;
2. STRATEGMED—prophylactics and therapy of civilization induced diseases;
3. Advanced technologies of acquiring energy;
4. Measures for improving safety in coal mines and;
5. Technologies supporting safe nuclear energetics.

NCBiR also plays an important role in proper usage of funds allocated for Poland by the European Commission. This agency coordinates Polish activities in such international projects like AAL, BONUS 185, EUREKA or ERA-NET.

Evaluating Results of Research

Since democratic system promotes free competition for public funding, a fair and transparent evaluation of research achievements becomes crucial for the domain of science and higher education. Let us briefly describe the present state of this issue in Poland.

Each person employed at the university or research institute undergoes periodic evaluation of his or her achievements. Typically, it is done at the end of the year, and it is based upon the form filled by the evaluated person. Such a form includes data on publications (e.g. books, articles in scientific journals, participation in conferences, awarded titles and degrees, obtained grants and patents, teaching, reviewing). Each form of the activity is assigned a certain score, and a summary score (possibly weighted) indicates the level of professional activity. Nowadays, most universities and research institutes include the Hirsch index and the number of cited papers into the evaluation criteria.

Similar procedure is applied when evaluating institutions. The Ministry of Science and Higher Education performs such evaluation once in four years. The assessment, based on the forms submitted by evaluated units, is done by the Committee for Evaluation of Research Units (pol. KEJN). In addition to data mentioned with respect to a person, such a form includes the characterization of staff (number of professors, doctors, etc.) and the rights to promote owned by the unit (e.g. at the Ph.D. level or Doctor of Science level). Research units are evaluated within groups related to specific disciplines of science. The KEJN assigns a group of experts that carries out the evaluation.

A score given for certain achievement is awarded by the Ministry. Thus, the MNiSzW publishes periodically a list of scientific journals with a number of points granted for an article published with them. For example, a paper in “Nature” brings 50 points, whereas an article in a local journal might be “worth” 5 points. Proceedings of conferences are not regarded as publications, whereas much attention is given to the transfer of research achievements into practice (patents, etc.).

The outcome of the evaluation is the assignment of a category to each research unit:

A+ —leading; A—very good; B—satisfactory; C—non-satisfactory. The level of statutory funding depends upon the category: research units of category A+ receive additional resources, whereas category C indicates that the unit should be closed.

Parametric evaluation of persons and research institutions is one of the novelties introduced by the reform of science in Poland. Like any innovation, it is contested by conservative part of the community. It is argued that the value of scientific result can hardly be assessed by a number and that parametric evaluation is easily prone to cheating. Indeed, in the Western world, where the rule “publish or perish” dominates over a longer period, certain adverse effects are clearly visible (some editors cleverly “pump” impact factors of their journals, some groups of researchers form “mutual citation circles”). However, it seems that there is no other way of distributing fairly public money than using bibliometric parameters as a base for evaluation. These parameters should be regarded as important, yet not remaining, ingredients of the assessment done by experts or supervisors.

Profile of Scientific Career

It is commonly agreed that an average career of a scientist or university teacher in Poland suffers from two drawbacks: it is rather slow, and it is tied to a single institution of higher education. Customarily, one is entitled to build his or her group and to choose research topics freely after obtaining the second scientific degree (Dr. habil. in the Polish nomenclature). This often happens when the researcher is about 50 years old, which is obviously too late.

The second degree does not exist in many countries, and it was not included in the initial version of the law on scientific degrees and scientific title. Such a proposal caused very vivid controversy, and it turned out that the majority of scientists were against the drastic change. As a result, the version approved by the Parliament (2003) keeps Dr. habil., although in the procedure leading to this degree was significantly shortened. Under the present law, a person seeking to obtain Dr. habil. submits the Central Commission for Degrees and Titles (pol. CK) either a dissertation or a package of papers published on a certain subject. The candidate indicates in his or her application the institution (faculty of the institute), which should

consider the case. The CK checks in one week, whether the application is formally correct. If it is so, then the CK informs the Scientific Council (pol. RN) of the institution mentioned in the application that the candidate asks this Council to open the habilitation procedure. The RN may decline the request. Then, the CK assigns other Council to proceed with the case, this decision being obligatory. In 6 weeks from the opening of the habilitation procedure, the CK assigns a Commission to handle the application. Such a Commission incorporates four persons assigned by the CK (a chairperson and three reviewers), and three members assigned by the RN (a secretary and two reviewers). Reviewers must submit their opinions in six weeks, and the Commission must deliver its final recommendation to the RN in three weeks after opinions were ready. Thus, the whole procedure cannot last longer than 15 weeks. On the other hand, the new law imposes more strict requirements upon scientific achievements of the candidate. Until the end of *vacatio legis*, the majority of habilitation procedures was run according to the previous legislation. Hence, it is premature to judge, how the new scheme will affect the speed and quality of the scientific career.

Conclusion

Each country has its customs and cultural background. Therefore, solutions working perfectly, e.g., in the USA, need not be applicable for other countries. On the other hand, the experience of countries like Poland, who underwent earlier significant changes in the organization of science and higher education, might be worth considering prior to undertaking similar reforms.

As far as universities are concerned, the Bologna scheme of three-stage education (Bachelor–Master–Doctor) dominates in Europe and, thus, should be adopted by newcomers. On the other hand, there is no tendency to unify the way of funding research. France keeps its centralized model, whereas funding in Germany is to a large extent distributed over federal states. Nevertheless, distributing the public money through specialized agencies seems to be more efficient and transparent than assigning this task to the Ministry of Research and Higher Education.

It seems reasonable when a part of research is conducted outside universities. In France, this function is taken by CNRS-Institutes, whereas in Germany similar role play institutes belonging to the Max Planck Society. Poland has left research institutes affiliated with the Polish Academy of Sciences. Some countries, like Lithuania or the Czech Republic, incorporated all of them into universities. The future will show, which solution works better.

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Chapter 15

New India—Universities in the Middle of Economic Development



Girishwar Misra and Rishabh Kumar Mishra

Until late twentieth century, India was portrayed as an agrarian society aspiring for ‘development’ through rapid industrialization by embracing the model adopted by developed countries. This led to borrowing of resources and acquiring technology from the developed part of the world. The sociocultural milieu of India was usually framed along binaries such as traditional versus modern and eastern versus western. India was considered as a society full of diversities and segregated along social divisions of caste, class, language, region and religion. The resulting categories were often characterized by intra- and inter-group conflicts. These perceptions had a negative impact on the construal and appraisal of Indian society and were used as an instrument for undermining its indigenous systems of knowledge, wisdom and practices. The colonial impressions formed during the two centuries of British rule continued in the psyche of the Indian people, and the Indian contributions were judged against alien criteria.

Notwithstanding this kind of sociopolitical complexity, India has revived and renewed itself after gaining political independence in 1947. In the last few decades, the country has emerged as a significant actor on the world-stage, with a promising pace of economic development; as a hub of human resources; a potential market; a democratic State establishment; and a society driven by egalitarian values and concern for social justice. The ‘New India’ is moving ahead with a mindset where individualistic orientation coexists with traditional collectivist values. It has developed a critical mindset to examine its traditions not in opposition to modernity but as a stream of life emerging and bonding together in the larger Indian cultural context.

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There are also shifts in the worldview of the people who accept the presence of singular 'Indian identity' and speak of it as if it were the representative of the Indian culture. Within this scenario, the system of formal education in India works both as a resistance to this 'Indianness' and has also created a sort of inertia in the minds of people (Bhattacharya 1998). Higher education (HE), being at the apex of the formal education system, works as a common link across the life worlds of adults usually treated as professionals, citizens and members of the civil society.

Against this backdrop, we in this chapter look at the spectrum of Indian higher education and try to examine its relationship with economic development and sociopolitical changes occurring in the globalizing world. Finally, we argue for the creation of alternative institutions which may gear HE to meet the challenges of the twenty-first century. We also indicate a number of key imperatives for achieving this goal.

What Is *University*?

The ideal of University as established in the modern world is that of an institution where the focal activities are teaching and research. It enjoys a cohesive environment of learning and engages its actors in the process of knowledge creation, criticism and dissemination (Beteilie 2010; Kapur and Mehta 2017). Besides, it is insulated with the intervening and impeding forces of State and religion and flourishes by a self-governance model (Tilak 2017, Chandra 2017). This ideal of University makes it a catchment area of institutional culture embedded in the larger sociocultural context of the society and engaged in the promotion of scholarship. Universities are situated in a society carrying its historical legacy and mediating the aspirations of its current members who may belong to the different sociocultural categories pertaining to class, caste, gender, region, religion, etc. It also has a dialectical relationship with society. These two faces of University, i.e. a centre of learning and an institution embedded in a social system, put forth two major challenges: (1) maintaining quality in terms of pursuing scholarship and (2) meeting the challenges of becoming inclusive and adhering to the values of equality and secularism.

If we explore the genealogy of the University, we note that historically the University was neither meant to produce workforce as per demand of the market nor envisioned as an institution aimed at massification of cultural and social capital through formal education (Bhusan 2016). Higher education in the form of university education opened a new horizon of ideas where divergent views were welcomed and deployed for rejuvenating the cultural space outside its boundary, both in the realm of production-oriented economic activities and in the realm of social interactions. It is professed that being exposed to the University culture one would transform one's identity as well as add value to the social and cultural capital. This kind of perception made the University an instrument that would meet the demands of knowledge economy and prepare the citizens for a democratic and inclusive world. As Altbach (1976) once noted, the universities play a pragmatic role in many developing

countries. According to him, in these countries, HE is propelled to meet the demands of market and industry by providing advance technical training, thus enabling the nation to compete in the international marketplace, to equip the younger population with a sense of nationality and seeing them as propagators of modern values. However, it is also noted that instead of nurturing an independent academic environment, the students are taught directly and vicariously to remain loyal to the ruling regime. The complex situation is such that ‘...some of the demands placed on higher education are impossible, others are contradictory and all are difficult to achieve’ (Altbach 1976, p. 39). Thus, the trajectory of HE in developing countries seems highly unpredictable. The interplay of the forces of the State, the society and the market has a deep impact on higher education.

Historical Backdrop of Higher Education in India

Although it is frequently mentioned that India had great universities such as Nalanda, Vikramshila, Odantpuri and Taxila in the ancient past, it is significant to note that these institutes could be institutions of HE but they were not like the modern universities in terms of aims, structure, functioning and governance (Shukla 1998). During the pre-colonial era, there was a well-established indigenous education system in place (Kumar 1998). The system comprised of village elementary schools and centres of higher learning but they were associated and identified with the religious learning centres of Hindus and Muslims. Most of them provided functional knowledge covering basic literacy skills emphasizing language learning, especially Sanskrit, Persian, Arabic and some folk languages. However, there was no uniform and systematic structure of curriculum and certification.

The Indian education system as it is identified at present was transplanted by the British in a country which was culturally incompatible with the educational schemes of Western civilization. Interest of the British in Indian education started as a philanthropic enterprise in the form of grant-in-aid system, but it was aimed at using education in general, and higher education in particular, as a tool to support and maintain widespread colonial governance (Bara 1998). With this aim universities were established at Calcutta, Bombay and Madras in 1857. Following the model of the University of London, the local colleges were affiliated to these universities. The expansion of higher education was done through establishment of colleges. Choudhary (2008) has identified that twenty five years after the establishment of first three universities the number of affiliated colleges increased from 27 to 75. He also noted that the British Raj was not very keen to establish a robust and comprehensive institutional structure of HE. It is evident by the fact that there were only 12 universities centred around the big cities of colonial India. At the time of independence, there were only 18 universities with the student strength of 0.2 million. This ‘new education’ was different in its aims and delivery in several respects. Cognitively, it engaged young elites with the Western knowledge system; politically, it proved the British rule as a modern State and economically, produced

a workforce that could serve a wider range of civil and allied services. Altogether it contributed towards the creation of an individuals' identity as 'educated' and produced a middle class which was keen to serve the British Raj. A new social group comprising of a fair number of people emerged who were running the State machinery. Ideally the Universities were thought of as democratic and secular spaces, but the medium of instruction and the criteria of admission favoured the privileged sections of the Indian society. Thus, HE exacerbated the pre-existing social inequalities by depositing another layer of inequality in the form of English education and Western knowledge. Privileged groups mobilized themselves in a new 'colony culture' where they were identified with the symbols of Western civilization (Agarwal 2012). Although English education was welcomed by the social reformers as a weapon to fight against religious beliefs and irrational superstitions, in its wake it uprooted the indigenous knowledge system and built an aura of western knowledge, science and technology which ensured the hegemonic position of the educated over the non-educated, and provided minimum space to the marginalized and underprivileged sections. A body of knowledge produced in Indian society was still alive and practiced, but it was purposely ignored and could not be incorporated in the mainstream of education. One example of this tendency was marginalizing the language of instruction and communication. It may be noted that during 14th to 17th centuries, India showed an upsurge of the Bhakti Movement, characterized by spirituality and devotion to God, to enlighten the masses. A significant aspects of this movement was the development and enrichment of folk languages. Thus, languages such as Awadhi, Braj and Maithili were promoted in northern part of India. These languages were the medium of communication at the local level, but they were replaced by English at the hand of the Britishers, and further by KhadiBoli style of Hindi which was accepted as one of the symbols of national identity during the national freedom struggle.

The system posed a challenge of culturally appropriating something that was alien to the people. The colonial education emphasized HE because returns of cost were high at the tertiary level. Beneficiaries would start supporting the colonizer as soon as they would complete their formal education. The beneficiaries, as they were elites, did not want the expansion of English education to elementary and secondary levels at the cost of HE, which further widened the gap between the haves and have-nots. There was also a stream of Nationalist Education, which dominated at the tertiary level, parallel to the English education. Unlike the situation in Continental European countries such as Germany, Italy or France where nationalist ideology was upheld to assert the ideology of the rulers and to promote the loyalty for the State, in India it was in opposition to the State. There were reformers and activists who wanted to revitalize an Indian education system. The rationale for the same was to preserve the Indian identity and negotiate with the government in the interest of Indians. Many of them welcomed the Western system of education as it epitomized modern values of democracy, secularism and scientific thinking. They thought that total rejection of Western knowledge is neither desirable nor possible. Their disagreement was with the neglect of Indian cultural heritage in contents as well as practice of education.

Nationalist Efforts for HE

As mentioned earlier the modern university system was introduced in India in 1857. Within 30 years, there were some institutions which were established with nationalist aspirations. Thus, Arya Samaj opened the Dayanand Anglo-Vedic (DAV) schools and colleges (1885), Annie Besant started Central Hindu College (1898), and Swami Shirdhanand established Gurukul at Kangari (1902). These were the centres celebrating India's ancient heritage driven by dominant values of Hinduism. Similarly, there was a Centre of Islamic Learning at Deoband and Khalsa Colleges in various parts of Western India. It was the conservation of religious ideals and values, and affirmation of religious identity that inspired the development of these institutions. Besides, there was an organization, the Deccan Education Society (1884), which favoured English as the medium of instruction, made itself flexible in practice so that it could get financial support, but was established as the ground for the nationalist movement. It is important to note that the nationalist aspiration under the leadership of Mahatma Gandhi was guided by the twin values of Swaraj (self-rule) and Sarvodaya (welfare of all). One of the Gandhian tools against British Raj was non-cooperation and civil disobedience. Mahatma Gandhi invited the students to give up schools either run or aided by the government as a part of the non-cooperation movement. Students were provided with support to disobey the Government, to attend public meetings against British Raj and to boycott government-run educational institutions. Meanwhile there was a need for HE institutions to cater to these students who had left their formal education at British-run institutions. Kashi Vidyapitha at Varanasi and Gujarat Vidyapitha at Ahmedabad were two universities established to serve this purpose. The journey of these institutions was not very easy. They had to face huge financial difficulties in addition to pedagogic and technical challenges. The nationalist call to reject the British-run HE institutions and to join the nationalist ones was also not welcomed by the middle class. Gandhi himself realized that the middle class of India was not prepared to make the sacrifice of British facilities and education was one of them. It was also one of the limitations of the nationalist education movement.

Higher Education in India Since Independence

In the wake of enlightenment and industrial revolution, the supremacy of human capital was recognized over other costs of production, i.e. land, labour and market. Meanwhile, the existence of an individual with independent mind driven by democratic values, committed to humanistic concerns and critical about the inequalities, was imagined. They characterized a 'modern' outlook, and the universities were entrusted with the responsibility to be the impetus of modernity. In pre-independence era, the Indian HE was like a lost-stream, searching for modernity under the colonial legacy. Altbach (1969) identified this tendency as a major

impeding force for the Indian Universities that remained virtually unchanged for a century. After gaining independence, HE of India was assigned dual responsibilities: first, to modernize Indian economy, society and politics, and drive the society towards industrialization and urbanization; second, to sustain the constitutional values of secularism, fraternity and equality with a commitment to social welfare and justice. More recently, Rizvi (2012) has drawn attention to the postcolonial aspirations of a collectivist society that ‘embrace science and technology as the language of development and directed towards emancipatory quest for a new social order free from hierarchical structures’ (p. 6). The amalgamation of these aspirations put a clear agenda for the State: to expand the outreach of the university to the masses and to create an ethos where young minds with liberating ideas can be groomed. Beteilie (2010) put it appropriately by recognizing the major challenge as transforming an elite system to an egalitarian system. Agarwal (2006) and Varghese (2015) have analysed the expansion of HE after independence and identified three successive developmental stages of HE in India. The criterion for identifying the stages is adopted from the work of Trow (2005) who had suggested stages of development of higher education on the basis of Gross Enrolment Ratio (GER). If the GER is less than 15%, the higher education system is at an elite stage, and if the GER is between 15 and 50%, it is categorized as a stage of massification, when GER reaches beyond 50% the system achieves the level of universalization.

Taking GER as an indicator of development, the growth of Indian Higher Education can be described as follows:

During 1950–70, there were two main foci. First, there was an urgent need for the expansion of HE so that a larger section of the population could be educated. Second, HE was seen as an essential impetus to meet the goals of self-reliance and industrial development. It is evident from Table 15.1 that during this period, a large number of institutions of HE were opened. Most of the universities were opened by the State. Besides, many colleges were groomed through grant-in-aid system.

Table 15.1 Growth of higher education: institutions and enrolments

Year	Total number of higher education institutes (central universities, state universities, deemed universities, private universities, colleges)	Student enrolment (in millions)	Gross enrolment ratio
1950–51	605	0.2	–
1960–61	1864	0.6	1.5
1970–71	2359	2.0	4.2
1980–81	7.73	2.8	4.7
1990–91	5932	4.40	5.9
2000–01	10,406	8.8	8.1
2010–11	21,800	27.49	19.4
2015–16	39,870	34.60	24.5

Source: All India Survey of Higher Education (AISHE) by Ministry of Human Resource Development (MHRD), 2015, New Delhi: Department of Higher Education, MHRD

The growth was mostly State initiated and funded. Simultaneously, several institutes of national importance, i.e. Indian Institute of Technology and Indian Institute of Management, were opened. The period was also marked by the establishment of regulatory bodies, i.e. All India Council of Technical Education (AICTE) and University Grants Commission (UGC). Despite the investment and expansion friendly policy initiative, GER was 4.2% which was less than satisfactory. There could be two reasons for the poor enrolment rate. First, it seems there was a poor base of pre-university system that causes low demand for HE. Second, the economy was heavily dependent on the primary sector. Therefore, HE was not an economically valued endeavour. It was also noted that the maximum enrolment was in the liberal courses of arts, commerce and science streams. Varghese (2015) termed it as a stage of 'high growth and limited access'. He argued that although the State was working with the agenda of massification, HE remained confined to a small population that was already exposed to HE and valued HE as a medium for social and cultural capital building.

The second stage emerged at the beginning of 1970. The decade was marked with upsurge of the demand for higher education. It was expected that the emerging middle class and urban population would turn out for HE (Agarwal 2006; Altbach 2011). The State realized its incapability to meet the demand and adopted a liberal policy so that the private sector can start and run HE institutions and share the burden. A pinch of privatization under the monitoring of State regulatory bodies was set as model to broaden the institutional base of Indian HE. Another significant trend was the acknowledgement of the relevance of professional education. As a consequence, the courses in disciplines like engineering, medical, management and teacher education started flourishing. It may also be noted that college degree is the minimum qualification for government jobs and this has worked as a motivating factor for HE (Chitnis 1972). The State's approach towards resource compensation in favour of socially disadvantaged classes motivated them to join HE. Besides, reservation in government jobs was an incentive which worked as an additional stimulating force for these communities. The distance education programmes also contributed towards the expansion of HE.

Economic reforms in early nineties changed the economic ethos of the country and led to a sociocultural milieu where growing middle class became larger, younger and richer (Agrawal 2006). The demand of economy shifted from routine jobs to entrepreneurship. The State has minimized its responsibility for establishing institutes of HE. Now HE became a tradable good, and its cost can be borne by the consumers. The sector of HE in general, and professional education in particular proliferated with private players who started contributing to the expansion of HE with a zeal to make profit. However, authority to design a course and award a degree was still vested with the State. The private institutions were affiliated to some universities and asked to strictly adhere the guidelines issued by the concerned universities. Boom in private sector and emergence of IT industry raised the demand of certified skill holders in the fields of computer science and management. Thus, a shift in favour of professional courses took place, and it was in cashed by the institutes run in the private sector.

Table 15.2 Growth of higher education institutes

Year	Central university	Central open university	Institute of national importance	Other	State public university	Institutes under State legislature	State open university	State private university	State private open university	Deemed university government	Deemed university government aided	Deemed university private	Total
2015-16	43	1	75	13	329	5	13	197	1	32	11	79	799
2014-15	43	1	75	3	316	5	13	181	1	32	11	79	760
2013-14	42	1	68	4	309	5	13	153	1	36	11	80	723
2012-13	42	1	62	3	292	5	13	122	-	36	11	80	667
2011-12	42	1	59	3	284	5	13	105	-	39	-	91	642
2010-11	41	1	59	3	281	5	13	87	-	40	-	91	621
2009-10	40	1	41	-	227	5	-	18	-	105	-	-	436
2008-9	28	1	38	-	231	5	-	21	-	117	-	-	440
2007-8	28	1	33	-	222	5	-	16	-	102	-	-	406
2006-7	20	1	13	-	229	5	-	-	-	109	-	-	377

Source: AISHE by MHRD, 2016 New Delhi: Department of Higher Education, MHRD

Indian Higher Education in the twenty-first century is marked by the emergence of a new paradigm. The modern HE system was built on the colonial foundation where universities, as epitome of knowledge, were monopolized by the State for the sake of quality. Now, with a philanthropic outlook and industrial crust, the institution of university is opened for the private sector. The entrepreneurs join the mission and open the universities in industrial mode. The growth rate of private universities can be observed in Table 15.2.

Entering into the Age of Laissez-Faire

Under a globalized world, knowledge has become a capital that decides the wealth and well-being of any nation. It has added education in general and HE in particular, as one of the infrastructural requirements for integration of a country's economy with the global market. At present, knowledge-driven industrial revolution is at the central stage and it is changing the face of market as well as the relationship between market and society. Integration of any economy with the world economy, flow of goods, services and information beyond the political boundaries, and growing economic interdependence are some of the key features of the emerging global economy. Globalization has overcome the limitations of market in terms of physical proximity, increased fluidity of finance and investment, redefined professionalism where reliability of services and ethics of professional relationship are at the top. On the political front, State has to be liberal in funding to maintain the momentum of globalization. On the social and cultural fronts, cosmopolitanism, materialism and individualism are identified as some of the changing characteristics of society. An English-speaking person who has unique idea about a new start up, equipped with effective communication skills and motivated to convince the funding agency and marketing counterparts with presentation, has become the dream of youngsters in the context of a globalized world. Higher education is seen as the most significant input to realize such a dream.

Before 1990s, Indian HE primarily relied upon State support and it was believed that the efforts made by the State are necessary as it was mobilizing the masses towards HE, ensuring the quality and creating a robust base for teaching and research. However, at the dawn of globalization it was realized that the State's efforts are neither efficient nor sufficient (Tilak 2014). The State has arrived to the conclusion that increased demand of HE cannot be met through the efforts of public sector alone. Meanwhile under the influence of global forces, a wide arena of professional needs emerged. It was propagated that market itself could do something to meet the emerging professional needs. Thus, a new system of HE started growing where providers were still identified as non-profit organizations but their underlying philosophy was individual profit, choice and freedom rather than social

welfare, justice and inclusion (Kapur and Mehta 2004). The role of the State was being re-examined and redefined. Earlier, it had to intervene in the domains of planning, financing and monitoring but now its role was reduced to mere monitoring. The government brought market friendly policies supporting the establishment of private institutions and private institutions deemed to be Universities. These institutions run on the basis of entrepreneurial motives rather than academic ones, i.e. from knowledge to skill, service to profit and social justice to individual interest (Chattopadhyay 2009). Thus, education became a marketable commodity to be sold and purchased in a competitive market where the paying capacity mattered more than academic merit.

The influence of these circumstances was also observed on teaching-learning processes. It became necessary to raise the curricular standards at par with international level so that the claim of being global could be affirmed. Thus, the Indian universities adopted the courses and curricula similar to American and European universities. However, the culture of learning was still dominated by the textbook based teaching and examination oriented learning. Thus the practice of HE was insulated from the practical world (Beteille 2010). Hence, HE is unable to strike a balance between what ought to be taught and what is taught. The market-mechanism-threat of competition and lure of profit, also narrows the goal of teaching, learning and research. It is becoming a legitimate ideal to produce workforce and charge institutional cost for the same. The performance criteria are defined in comparison to the contribution and growth of total capital, whereas education works in the context of change in attitudes, embracing constitutional values, removal of poverty, etc. By default, 'When' and 'what' is to be taught are becoming issues to be governed by the market. Very soon 'what' should be researched would also be decided under the influence of the market. The questions of access, quality and equity are becoming redundant as they are not relevant for the market (Chattopadhyay 2009). Though there are several good private institutions but they also charge very high fee. If HE is free to take its trajectory as per market rules there should be some commitment and policy for consumer's rights. However, no such provision is currently made. In fact, there is a dynamic market that encourages and promotes branding, so as to sell its product in the form of academic degrees, to attract the customer in a perfect market situation. Unfortunately, there is no commitment and accountability in favour of students (Nayyer 2007). Mushrooming of substandard institutions with high fee and poor quality is also a product of globalization that needs to be addressed while thinking about the new world of HE. Besides, the phenomenon of development is not just about an industrialized and urbanized world; it is also about a sustainable lifestyle. This ideal is missing in the preparation of future professionals through HE. The upsurge of privatization of HE is very much a reality but till date private institutes do not have a cultural legacy of excellence in the field of higher studies. The public institutes are still preferred and they are doing better than their private counterparts.

The ‘Permanent Crisis’ of Indian HE

After gaining independence in 1947, several committees and commissions were dedicated to study the problems of HE and suggest remedies. The first Commission was University Education Commission (1948), also known as Radhakrishnan Commission, identified that ill-prepared intern at the tertiary level is one of the key challenges of HE. Therefore, heavy amount of resource and time were invested in the preparation of these interns to accommodate the minimum level of HE. Further, the Commission highlighted that overcrowding in the colleges, emphasis on the end-term examination; lecture and rote learning-based pedagogic practices, absence of updated knowledge are some of crucial problems responsible for the deterioration of the quality of HE (Ministry of Education 1962). Although significant recommendations were made, another Commission was set up in 1964 known as Kothari Commission. It highlighted the same issues from a different angle. It recognized the need of manpower in a developing nation and envisioned education as an instrument to achieve this goal. It also cautioned about the unplanned and uncontrolled growth of HE. The Commission affirmed that though there was a need to provide increased access to HE but it also elucidated that open-door admission policy would adversely affect the quality of HE both at undergraduate and postgraduate levels (National Council of Educational Research and Training 1971). The Commission showed its deep concern about the curriculum, syllabi and assessment. It reported that these aspects were not up to the mark in comparison to the standards of other universities in the world. The procedural problem of ‘slackness and stress’ was seriously impeding the learning environment at the campuses of HE. There was a slackness throughout the year and stress during the examination. Besides, absence of research atmosphere and dearth of textbook and supplementary literature in Indian languages were other important issues. The Commission recommended for an overhaul of the formal education system with a new structure and interrelationship starting from primary school to the Universities. The National Policy on Education, framed by the Government of India in 1968, tried to translate these recommendations into action and devised ways to stabilize the number of full-time students with reference to the available resources; especial attention was paid to the postgraduate courses and research work at the Universities (Ministry of Education 1968). The National Education Policy (1986) and its Program of Action (1992) identified the uneven expansion of HE in terms of social and regional basis. The report clearly stated that ‘the universities have not been organized to meet the needs of time’ (MHRD 1986). The reports did not appreciate the approach of setting the research institute outside the University. It affirmed the need for consolidation of resources and faculties rather than mindless quantitative expansion. Report on a policy framework for Reforms in Education (Government of India 2000), popularly known as Ambani–Birla report, underlined the aforesaid crisis but it was unique in terms of solutions. Considering the knowledge as a good for the economy, it favoured the role of private players in HE that is elitist in nature and incompatible with the ‘socialistic’ aspirations of a State like India (Table 15.3)

Table 15.3 Percent enrolment in private and government colleges

Year	College type		
	Private un-aided	Private aided	Government
2015–16	45.6	21.4	33
2014–15	45.4	21.6	33
2013–14	42.6	22.4	35
2012–13	40.8	22.4	35
2011–12	37.9	23.2	38.9
2010–11	37	23.8	39.2

Source: AISHE by MHRD, 2016, New Delhi: Department of Higher Education, MHRD

The report of National Knowledge Commission (2006) with reference to HE began with the urge for increasing gross enrolment ratio up to 20% by 2015. It elaborated the problems related to expansion, reforms needed for excellence in terms of resource availability, autonomy and inclusion. Again in 2009, the Yashpal Committee on Renovation and Rejuvenation of Higher Education peeped into the permanent crisis of HE and strongly recommended to restore the ideal of the University as ‘a universe of knowledge where creative minds converge, interact with each other and construct vision of new realities’ (MHRD 2009, p. 9). Interface between disciplines, inviting everyday knowledge of communities within the University walls, dialogue between research-based institutes with HE institutions are some of the key recommendations of this Committee. The Committee on Corporate Participation in Higher Education (2012), known as Narayan Murthy Committee, elaborated the ways of ‘enabling environment’ in HE and found the corporate participation as a way out (Planning Commission, Government of India 2012). Most of the committees and commissions converge on some problems in different forms and or degrees, i.e. absence of updated curriculum, over emphasis on examination, absence of inquiry-oriented pedagogy, strong boundaries between the courses, lack of research rigour and orientation and limited interface with society. These policy documents appear to be constantly engaged with the dilemma of expansion and quality. Altbach (1969) has rightly termed these tendencies as ‘permanent crisis’ of the Indian HE. He defines the crisis in following terms: unplanned, directionless and random growth, unable to insulate itself with political motifs of patrons and carrying forward colonial legacy in terms of academic hierarchy and administration. Altbach (2012) and Chitnis (1997) both added some more qualifiers to the permanent crisis, i.e. examination and certificate-oriented courses, lack of rigour and innovation in curricula, teaching and assessment, a chasm between field of knowledge generation and application. Eric Ashby’s framework of ‘inner logic’ can be used to elaborate these crises. According to him, three environmental factors, i.e. customer demand, manpower need and patrons of the system influence HE system in any society (Ashby 1963). Whenever social environment presses for change, it has to face two kinds of resistance. First, the inertia of the system to any change and second, the belief of the people who are

Table 15.4 Enrolment at various levels of study programmes

Year	Ph.D.	M.Phil.	PG	UG	PG Diploma	Diploma	Certificate	Integrate course	Total
2015–16	126,451	42,523	3,917,156	27,420,450	229,559	2,549,160	144,060	155,422	34,584,781
2014–15	117,301	33,371	3,853,438	27,172,346	215,372	2,507,694	170,245	141,870	34,211,637
2013–14	107,890	31,380	3,822,219	25,500,325	276,502	2,285,576	187,340	125,002	32,336,234
2012–13	95,425	30,374	3,448,151	23,890,309	194,072	2,207,551	191,871	94,664	30,152,417
2011–12	81,430	34,154	3,367,190	27,174,950	196,159	2,071,609	184,717	74,122	29,184,331
2010–11	77,798	25,101	2,104,334	20,050,904	80,167	1,690,497	101,825	54,669	24,185,295
2009–10	92,211		1,833,507	13,872,870	89,092	1,447,406	–	–	17,295,086
2008–9	81,393		1,621,142	12,252,879	107,647	1,149,417	–	–	15,212,478
2007–8	76,227		1,514,115	11,063,827	87,953	849,689	–	–	13,591,811

Source: AISHE by MHRD, 2015, New Delhi: Department of Higher Education, MHRD

Table 15.5 Discipline/subjectwise enrolment pattern at undergraduate level (in lakh)

Year	Humanities/ social sciences	Science	Engineering	Commerce	IT/computer application	Medical science
2015–16	109.4	43.8	42.5	38.6	6.8	8.99
2014–15	107.07	40.92	42.28	37.21	6.83	8.11
2013–14	94.65	32.20	40.63	32.63	6.36	7.12
2012–13	81.98	25.33	34.71	28.87	6.09	5.97
2011–12	66.36	20.42	27.75	24.65	7.93	4.89
2010–11	63.02	14.67	21.39	18.31	4.01	3.76

Source: AISHE by MHRD, 2015, New Delhi: Department of Higher Education, MHRD

engaged in any system about the purposes of the system. These two kinds of resistance are called the inner logic of the system. The inner logic of the HE in India accepts a massified HE without quality substance. Customers (students) shared a cultural belief about higher education institutes that they are a place for getting certificate only. Therefore, they are neither forthcoming nor asking for quality education. Similarly, employers are worried about the quality of substance given in HE but both types of employers, private and government, are indifferent about the contents of the degrees. Besides, the State priority is expansion of HE and minimizing the investment of public finance on HE. Thus, the inner logic of the system has agreed upon to an HE system that inherently faces the above-mentioned permanent crisis. The claim is supported by the data represented in Tables 15.4 and 15.5.

Both the data sets show that enrolments in undergraduate courses are very high in comparison to other categories. It exemplifies the argument of gate pass through graduate degree. Table 15.5 also shows that although there is substantial growth in private institutions providing professional education, most of the under graduate students are pursuing traditional courses of Arts, Science and Commerce. The effect of the resistance caused by the inner logic was appended with the achievements too. Altbach (2012) points out this aspect with few examples, i.e. massification of higher education is done but deterioration in academic standards, interference of politics and dominance of private sector is also clearly visible. There are some pockets of excellence, i.e. IITs, IIMs, Jawaharlal Nehru University but they are surrounded by mediocre and poor institutes which are still teaching institutes and not research-oriented institutes. The Indian intelligentsia has been recognized at the world level for their innovation and problem solving skills especially in the field of information technology, meanwhile a huge number of technocrats are facing the problem of under employment. Altbach (2012) has emphasized that India, despite its problems, has built a more indigenous economic and academic infrastructure than most third world nations but it is facing a tension between the ‘local’ and ‘global’ in terms of substance of HE. The medium of instruction is one of them. There are many regional languages, but the dominance of English as a medium of

instruction validates the preference for Euro-American scholarship and undermines the scholarship of Indian subcontinent. Chitnis (1997) has hinted a gap between what the society needs and what the system offers. Although the policies of looking at and following the developed nations has helped the society to globalize itself by assimilating the cultural and social patterns of the West but it does undermine a wider section of the society that is still dependent on traditional occupations of agriculture, husbandry, fisheries, mining and so on. They are not deprived due to lack of opportunity of economic growth rather it is the lack of knowledge and skills that may rejuvenate their practices through technological innovations and human resource management. Though HE has equipped young minds with technical, technological, professional and managerial skills, it was done in a learning culture that put emphasis on absorbing the knowledge rather than constructing and situating it within their indigenous context.

The Invisible Disparities

At the time of independence, among other challenges of HE, access and inclusion were the significant ones. India's commitment for equality in place of hierarchy was the guiding principles of HE. Equality of opportunity in place of so-called merit-based hierarchical system that allows only a smaller group of elites to participate in HE was chosen as a path of inclusion and access to HE and it was reflected in the formulations of reservation policies. It was assumed that reservation policies at all levels of HE will attract and inspire the marginalized population. Besides, it will facilitate students upward mobility at the university level for those who would not otherwise pursue HE. The logic of massification also comes out with a hope to prepare a young population who could deal with deep rooted and complex hierarchy of social structure within a shorter span of time. As per GER data, Indian HE is at massification stage but there are some invisible disparities under the disguise of massification.

The data of current GER (24.5%) suggest that the system would be becoming more accessible and inclusive. Table 15.2 shows that HE is gradually moving towards private sector. The number of private universities has increased significantly during the last decade (see Table 15.2). Commenting on this situation Varghese (2015) has rightly observed that 'the country has moved from a public sector dominated higher education system to a private sector mediated system'. If we see the enrolment ratio for undergraduate courses at college level (Table 15.3) in both types of institutions the picture becomes clear. The enrolment in private un-aided colleges is increasing while the same is diminishing in government colleges.

Keeping the fact in mind that private institutes charge capitation fee and many other charges for HE, it is evident that the cost of HE has substantially increased. The enhanced cost is a negative force for marginalized section of the society. As Agrawal (2016) has noted the upper-class males hailing from urban centres are key

consumers of privatized HE. Massification through privatization has its limits. It provided a bypass for those who are not competent enough to qualify for the government system. Besides, as Anandkrishnan (2010) found there is also inter State disparity among the States of India. The States with a higher enrolment in universities and colleges are those with higher ratio of urban population and a lower percentage of population below poverty line.

Constitutionally, education is a subject of concurrent list but the data given in Table 15.2 indicate that it is inclined towards State government as there are 342 universities, deemed universities, open universities under the jurisdiction of State government. Even the universities run by private sector have a significant number of 277 which are approved by the State governments. The data suggest that while central government tries to show itself as a big boss in the arena of higher education, the ground reality favours State governments and private players. In this case, the central government's initiatives and interventions for improving the quality of education are dependent on the support of State governments and private sector. All India Survey of Higher Education (AISHE) (2015) also highlights that there are 268 affiliating universities, a system adopted in colonial India following the model of London University that was abandoned in England in early twenties. Thus, the key provider of HE are still the colleges. These colleges are evenly distributed. The University Grants Commission (UGC) has estimated that there are 17 universities which have more than 500 colleges. It is mentioned in AISHE 2015–16 Report that the number of colleges per lac (10,000) eligible population in the age group of 18–29 years varies from 7 in Bihar to 60 in Telangana (p. 38). The college dominance model has another limit. Most of the colleges run only undergraduate programmes and only 33% of them run post graduate programmes. These programmes are transacted through routine procedures of teaching-learning and assessment with major emphasis on successfully passing the examination. The component of research and field based experience is missing in the teaching programmes at these colleges. AISHE 2015–16 Report indicates that there are 307 universities are located in rural areas. Although it justifies the principle of resource distribution and creating gravity centres in underdeveloped area but distance from the focal centre also generates a static effect. They cannot attract wider population and have to face resource related problems too. At the time when government is withdrawing financial assistance, such universities are facing serious financial problem. Besides, Anandkrishnan (2010) found interstate disparity among the States of India. The States with a higher enrolment in universities and colleges are those with higher ratio of urban population and a lower percentage of population below poverty line.

Although the data indicate that the proportion of marginalized section of the society shared by Scheduled Caste (SC), Scheduled Tribe (ST) people has increased, it is still not proportionate to their representation in the total population (see Table 15.6).

According to Chitnis (1972), the enrolment rate as the criterion to gauge access and equality is not adequate. She supported her argument with the following trends: dropout rate is very high among SC and ST students, enrolment in low-grade

Table 15.6 Representation of various social groups in higher education (%)

Year	Gender		Caste			Other socioreligious group	
	Male	Female	SC	ST	OBC	Muslim	Other minority group
2015–16	54	46	13.91	4.9	33.75	4.6	1.97
2014–15	54	46	13.5	4.8	33.00	4.5	1.9
2013–14	54	46	13.11	4.6	32.36	4.3	2.0
2012–13	55	45	12.76	4.4	31.22	4.2	1.9
2011–12	55	45	12.5	4.2	31.7	3.9	1.9
2010–11	56	44	11.10	4.40	27.60	3.8	1.8

Source: AISHE, by MHRD, 2016 New Delhi: Department of Higher Education, MHRD

institutes, their representation in professional courses is inadequate, and performance of these students is lower than their counterpart upper caste students. Weisskof (2004) also noted that the majority of reservation beneficiaries enter university programmes with poor preparation and lower academic qualification than their counterparts hailing from the elite groups. That is why their turnout rate is poor. Thus, merely getting enrolled in HE does not ensure that the marginalized group will have access to significant knowledge and skills because they are distributed to those strata of higher education which are either at the bottom or somewhere at the middle point in the quality standards of HE. She also flags another form of inequality among the deprived classes, i.e. SC, ST and OBC. It is caused by the interface of unequal distribution of educational opportunity with class and rural–urban variation. Chitnis (1972) had explained the case with the example of Mahars and Mangs. Both the groups belong to SC category hailing from the same region of Maharashtra and have almost equal representation in the total population. However, the Mahars under the leadership of Dr Bhim Rao Ambedkar mobilized themselves and cashed on the benefits of reservations better than the Mangs. Deshpande (2006) identified the gate keeping mechanism used by upper caste faculty members at university campuses that impede access of marginalized class to the HE. He explained that the upper class faculty members try to regulate entry of the lower caste students in favour of upper caste students. The argument of Deshpande (2006) seems significant if we see it in the light of the data presented in Table 15.7 that shows the dominance of upper-class male faculty members at the HE institutions.

Ghosh (2006) found the emergence of unhealthy caste politics at universities' campuses. Under the influence of the same, student unrest and mass agitation related to reservation policy has increased from both the sides. The tendency delimits the role of education and makes it a tool for social reproduction wherein hegemonic conflicts are coloured with hatred and intolerance. However, Weisskof (2004) also identified a positive sign that the entry test score gap between SC/ST and other students has been narrowing over the past few decades. Such tendencies sustain our hope in education as an agency for social transformation.

Table 15.7 Representation of various social groups in teaching profession at higher education (%)

Year	Gender		Caste				Religious minority	
	Male	Female	Gen	OBC	SC	ST	Muslim	Other
2015–16	61	39	65	25.4	7.5	2.1	3.4	3.3
2014–15	61	39	67	23.8	7.1	2.1	3.2	3.1
2013–14	61	39	67.6	23.5	6.9	2.0	3.1	3.2
2012–13	61	39	68.8	22.5	6.7	2.0	2.9	3.23
2010–11	62.8	37.85	69.5	21.4	6.9	2.2	2.9	3.2

Source: AISHE by MHRD, 2015, New Delhi: Department of Higher Education, MHRD

The Future of Higher Education in India: Some Imperatives

The State of HE in India needs serious intervention if it has to grow and attend effectively to the global and local concerns. Some of the key imperatives for reorienting Indian HE are listed below.

Profession with a Social Cause

Higher education institutions cannot afford to remain isolated and pursue their goals without any heed to the sociocultural context in which they are embedded. Also, they have the responsibility to relate to the emerging societal context of India. It is estimated that India will have the largest population in the world in the HE bracket by 2030. Increasing urbanization and income levels would be the key driving forces for the demand on HE. Indian economy is expected to grow at a faster speed where industry and service sectors would have a serious impact on the economy. India must identify the grand challenges at the national level for coming decades and gear HE to respond to them. India has also opportunity to become a prominent R&D destination. Given the expected socioeconomic scenario in a decade, India would need a robust HE system that may deliver knowledge and skills at multiple levels of competence. This becomes critical when we try to organize HE in terms of undergraduate, postgraduate and research levels which are not compatible with training in cultural streams of learning such as music, dance and craft where creativity is at its best. In particular, HE has to create suitable links and interface with the training in the areas of indigenous knowledge and craft which are in the non-formal arena and are isolated. They, however, have a robust place in society.

Therefore, it is proposed that a differentiated system of institutions with differing objectives and focus areas would be critical for achieving the desired goals. The policy to have super specialities in the pursuit of knowledge needs to be examined. An alternative scheme may organize the HE institutions in three major categories, i.e. Research Focus Institutions, Career Focus Institutions and Foundational

Institutions. The focus of each of these institutions will differ; yet, they will cater to the needs of the economy and provide pathways for the aspirational young adults of India. These three categories, however, are not exclusive. Taken together they will facilitate each other, but their focal area will be specific to the one of the fields.

These institutions must have differential agendas for HE. For example, Foundational Institutions should focus on achieving social objectives of alleviating poverty and creating social awareness, inspiring sanitation and law and order maintenance. They should impart skill-based training and enhance employability at the grass-root level, and thereby serving economic needs. Therefore, depending upon the nature of institutions recruitment norms be developed. The over emphasis on Ph.D. as an essential qualification needs to be re-examined, as it often leads to a paper degree achievement rather than an authentic accomplishment in a given discipline. We need to evolve alternative ways to acknowledge, assess and reward the scholarly accomplishments as reflected in writing, teaching, methodological and theoretical innovations and other kinds of contributions to society. A common understanding of Ph.D. as highest academic degree and as synonym to research aptitude work as inertia that enables one to rotate in their comfort zone but impedes them to come out of comfort zone. It is like a learning plateau that erodes with time and thus unable to walk along with strands of newer developments in the discipline. The institutions should have autonomy to devise their own parameters for recruitment which are both transparent and accountable in the public domain. This kind of autonomy shall help the institutions to position with differential mandates and allow contributing to meet the grand challenges of the nation.

Recruitment and Training

Training and recruitment should be aligned with a tenure based system, the way some of the IITs are following. It should have at least three probations, and the bottom 30% must be weeded out. However, at least 70–75% of the faculty must get security of job and academic freedom to concentrate on research and knowledge enhancement. There is need to develop a strong performance-oriented culture by introducing differential reward system. Training for conducting virtual classrooms, summer workshops and mentoring model of training be institutionalized.

Scholarship and Pedagogy

Research focus institutions must have autonomy in content design, recruitment and pedagogical approach. The research priority must address cutting-edge fields relevant to the national and international issues. The research skills and competencies must be honed by a suitable mentoring system. Research is a collective enterprise

and must have well defined deliverables. There must be national-level networks of institutions focusing on specific domains. Currently, the accomplishments are communicated only through seminars and conferences. There are not many established mechanisms of coordinating their efforts to cater to the requirements of grand challenges. There is a strong need to create a consortium of researchers in specific domains. It must be comparable to the best practices across the globe. There is an impending need to make all such institutions IT driven with sufficient space for face-to-face interaction and accountability indices with transparently articulated parameters. Such an approach would provide substance for introspection to the institutions of HE, and to the individuals to be aware of their trajectories of growth and development.

Mentoring and Ambiance

Mentoring is a time-tested method applied for developing faculty in ancient India, and HE has produced many scholars through this model. There is need to institutionalize the model of mentoring. In a way, it is in practice even today, yet, missing the necessary rigour and discipline to bring in the desired positive results. The mentoring model of faculty development should be part of promotional criteria for the recruitment at senior faculty positions. The administrative function of academicians can be given to those who are willing to give up academics and do full-time educational administration. The administrative skills of academicians be re-examined in the changing circumstances.

Institutional Engagement

All institutions of higher education must have a mandate to remain responsive to the grand challenges of the nation. Yet, they must also take the responsibility of catering to the diverse needs of the local people. For example, if a bridge is to be constructed in the vicinity in a particular geographical area, then the nearby engineering colleges, IITs and Universities must be involved. Sharing of knowledge and pedagogy will strengthen local HE bodies. Similarly, universities and colleges should compulsorily conduct community out reach programmes. The boundaries of HE institutions must be accessible to society and must have data repositories pertaining to local realities besides being engaged in the universalistic knowledge pursuits.

The faculty and students must be cognizant of the local conditions authentically rather than relying on their own perceptions. It should be made a part of regular orientation and updation carried out periodically by the institutions of HE. A separate unit in the institution must attend to all the changes in the demographic,

economic and cultural milieu of the local society where it is situated and keep that data updated. The academic institutions are located in a given ecology, and they should be made responsive. In this way, each institution in a given region will walk the talk by co-constructing each other and serve the needs of the nation, community and individual.

Research

Research is a collaborative endeavour in which many actors participate in the co-production of knowledge across multiple streams. New knowledge can be generated through participation in dialogue across differences in the forms of knowledge and hierarchies of power. We need to inspire critical, reflexive ways of understanding. Research happens to be a heterogeneous field embracing different perspectives. We need to create a space for mutual learning across different fields and themes. The tension between opening up for a plurality of voices and managing the research process in order to create a product that can satisfy all the stake holders needs to be resolved. We have to address the issues of critical thinking and reflexivity, in relation to the concerns for democracy, power and control in the process of knowledge production. Contributing to the development of theories, concepts and methods that can further and improve the practices of communication, participation and collaboration is a major challenge that the Indian system of HE currently faces.

Concluding Comments

In an age of knowledge economy, HE assumes a key role in fostering social and economic development of the country by providing skilled human resource. However, HE is facing several impediments in achieving its goals. It seems that the issues of financing and the use of new technologies are critical to address the demands for expansion, differentiation and knowledge explosion. This necessitates building model(s) of efficient and effective governance of HE and orchestrating it with the needs of society and promotion of scholarship. The HE system needs to be reorganized in view of the present-day ground realities and need to gear up for the future requirements. It must respond to the grand challenges faced by the society as it cannot sustain itself for long without accountability to society. For this purpose, institutions attending to research, career and foundational programmes have to be strengthened in terms of infrastructure and autonomy of functioning. This requires a multi pronged strategy to overhaul of the system of HE. The key ingredients of change would encompass the following:

1. The links of institutions with local people, ecology and culture need to be established and strengthened by creating greater space for institution's societal engagement.
2. The idea of scholarship and competence has to be expanded to recognize and reward the accomplishments in art, craft and indigenous knowledge which lie in the non-formal domain.
3. The pursuit of excellence demands adequate freedom in the organizational structure along with realization of responsibility. The bureaucratic interference needs to be curtailed as it is highly dysfunctional. The functioning of statutory bodies needs reorganization so that the autonomy of the institutions is maintained.
4. The process of faculty recruitment and promotion has to relate to performance rather than trivial mechanical criteria such as years of service and formal qualifications. Also, mentoring has to be established as an essential component of teaching-learning process.
5. To overcome the regional disparities, incubation centres need to be established so that these centres may facilitate the colleges and universities at regional level. Scarcity of quality learning material in regional languages is significant issue that needs to be addressed on priority basis.
6. A synergy between universities and industries is the need of the day. A symbiotic relationship between the two is necessary, and the same should be reflected in the curriculum, pedagogy, assessment and extension work.
7. The divide and hierarchy among the disciplines needs to be addressed and avenues should be opened for dialogue among them.

Acknowledgements The authors gratefully acknowledge the comments and input from Prof. Anand Prakash, Dr. Preeti Kapur, Sri. Samarjeet Yadav and Dr. Ravneet Kaur on an earlier draft of the paper.

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Chapter 16

The Constitutive Crisis of Universities: Born to Be for Few, Challenged to Be for All



Jorge Tarcísio Da Rocha Falcão

Since their historical origin, European universities appear in the beginning of the post-Medieval Age of Enlightenment to amplify the offer of educational qualification, that was until then limited to the claustrum of monasteries. It seems that Charlemagne in 814 determined this high-level educational role for the Church, through his decision that every cathedral and monastery in his empire should establish a school to provide free education to every boy (no girls) that could follow a course of study.

The emperor's aim was to create a group of educated *priests* upon which both the empire and local communities could rely on leadership. Educational offers during the medieval–ecclesiastical period were rich and diverse, even though this period is frequently called “Dark Ages”. Most plans of study covered a “three-part curriculum”, a *trivium*, consisting of *grammar*, *rhetoric*, and *logic*—and a *quadrivium*, a “four-part curriculum”, covering *arithmetic*, *geometry*, *astronomy*, and *music*. Grammar covered reading and writing properly, both in vernacular language and Latin (the universal language of the European educated classes); rhetoric focused on the ability of publicly speaking and disputing ideas; and logic aimed to provide means of demonstrating the validity of propositions, as well as serving as an introduction to the *quadrivium* (<http://tinyurl.com/y9pwve26>).

A central characteristic marked this medieval system of complete education—it was designed for very few people, not only due to logistics (reading materials were manuscripts available in very few copies), but also because it was only addressed to “trusted” people—those for whom the epistemological position could be described in terms of “*believe* (as in have faith) *in order to see/understand—crede ut*

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intelligas”, opposed to “*see/understand/demonstrate* in order to believe—*intelligere ut credas*”, also represented by the motto *sappere aude* (“dare to know”).¹

The first precursors of universities emerged along with the first printed books (with special emphasis for the Encyclopaedia and the Holy Bible in vernacular language), the beginning of the French Revolution, the scientific revolution and scientific academies, literary salons, coffee houses—all of which constituted a very strong social–historical context of appearance of a new, post-scholastic frame for knowledge. The fulcrum of scientific revolution was the substitution of religious dogmas as frames of inquiry by reason, assisted by empirical evidence. From this point of view, authority (politically or scholastically based) should be replaced by demonstrable reasoning, as proposed by Galileo Galilei—which cost him the accusation of heresy: “All our Fathers of the devout Convent of St. Mark feel that [Galileo’s] letter contains many statements which seem presumptuous or suspect, as when it states that the words of Holy Scripture do not mean what they say; *that in discussions about natural phenomena the authority of Scripture should rank last...* [the followers of Galileo] were taking it upon themselves *to expound the Holy Scripture according to their private lights and in a manner different from the common interpretation of the Fathers of the Church...* (Letter from Lorini to Cardinal Sfrondato, Inquisitor in Rome, 1615—<http://tinyurl.com/gll6fr9>, italics added). Political, religious and philosophical zeitgeist by the Age of Enlightenment contributed to the flourishing of ideals like separation of church and state, constitutional government, civil rights, tolerance, citizenship and democracy (Outram 2006, p. 29). But it must be said that the Church itself, by the year 1079 and through a papal decree issued by the controversial Pope Gregory VII,² had ordered that all European cathedrals and major monasteries should establish schools for the training of clergy.

The result was a great expansion of education by the end of Medieval Age, which somehow prepared the society for the Enlightenment revolution. That was the case in the medieval village of Paris, whose cathedral of Notre Dame and buildings nearby logged many teachers and students attached to the cathedral and monasteries schools (Sainte Geneviève, Saint Germain des Près et Saint Victor were among the most known—<http://tinyurl.com/y9pwve26>). This pre-university community of students and teachers, all of them Latin speakers (since most courses were given in Latin), would give rise to the renowned Quartier Latin. A union of students from the Quartier Latin, formed in order to face Parisian bartenders after a street battle in the year of 1200, was given the usual Latin term *universitas*, and is considered the embryo of latter University of Paris, at first named *The University of*

¹The struggle between these two epistemological positions is illustrated by the drama of Saint Abelard and his pupil (who became his wife and intellectual partner) Heloise, described in Abelard’s *Historia Calamitatum* (A history of my calamities—1132—cf. <http://tinyurl.com/yax77a3z>).

²The Pope Gregory VII became famous because of the *Investiture Controversy*, a conflict between him and the German King Henry IV concerning the right to appoint church officials in the Catholic Church (<http://tinyurl.com/y79sppaf>).

the Masters and Students of Paris (<http://tinyurl.com/y9pwve26>). Soon realizing their power and prestige in Parisian society, this union obtained from the French King Philip corporate rights, privileges and protection: the members were given the rights to establish curriculum, requirements and standards of accomplishment; to debate any subject and uphold in debate any subject; to choose their own members; protection from local police; and the right of each member to keep their license to teach as soon as they had been admitted to full membership (<http://tinyurl.com/y9pwve26>). The University, as an institution, was born.

The first western universities, following this historical movement, were no more institutions exclusively devoted to educate priests in a philosophical–religious–rhetorical domain, but offered instead opportunity to the development of inquiries based on research questions in domains like cosmology, laws of floating, human anatomy, blood circulation. Since their historical roots, as a union of students and masters, universities were designed for a limited number of people, admitted in conformity with internal rules. Their first, central and common aim was to “maintain quality in terms of pursuing scholarship”, as mentioned by Misra and Mishra (2018), referring to contemporary universities from India. In fact, this founding aim is constitutive of the ethos of all universities across time and countries. At the same time, the effort of opening the arena of inquiry and reasoning to *everyone* that was able to consider any *thesis* as *hypothesis*, submitting it to empirical examination and proof, dislocated the source of regulations and power from the Church. Power, nevertheless, is like air—it fears the vacuum. That is why, from the time of their ancestor, the *University of the Masters and Students of Paris*, one of the most cherished principles of universities is the right of self-regulation. However, since their very beginning, universities were never situated in social, cultural and historical emptiness and thus have been submitted, in fact, to many structural, constitutive paradoxes in their historical route.

We have quoted above the chapter of Misra and Mishra (2018) in this volume, when they stressed that the first, central and common aim of universities (in India and elsewhere) was to “(...) maintain quality in terms of pursuing scholarship”, but there is a second and equally challenging aim of all universities, since their historical beginning to contemporary, globalizing times: “(...) becoming inclusive and adhering to the values of equality and secularism”. These same Indian authors, quoting Altbach, 1976,³ mention that “...some of the demands placed on higher education are impossible, others are contradictory and all are difficult to achieve”. In fact, how to be exclusive and inclusive at the same time? This constitutive drama can be summarized in terms of three aspects, mentioned in the chapters of Part II of this book—Universities in the middle of globalization. The commonality of these aspects across the chapters shows how global and pervasive they are. The first one concerns having access to the university, both as student and teacher; the second is how to evaluate universities, which is directly linked to the third, which includes the

³Altbach (1976). Quoted by Misra and Mishra (2018).

ways of acquiring and maintaining academic power, and also money. Let me problematize these aspects.

Entering the University

One of the strongest memories I have from the day I presented my doctorate thesis for a jury at University of Paris-5—René Descartes/Sorbonne is a compliment I received from one of the civil servants in charge of cleaning and housekeeping of the university buildings: “*Now, you are able, together with the bishop of Paris, the King of France and the other doctors of this university, to cross once a year the Porta Magna of la Sorbonne!*” Doors are powerful cultural symbols, since they represent, with the concreteness of strong metaphors, the rite of passage from outside to inside—the very process, as mentioned by Arnold Van Gennep, where the aggregation to a new community is formally achieved (<http://tinyurl.com/ybbg28cr>).⁴ I, previously a southern foreigner from the amazing country of Brazil, had become a member of an extremely selective community—and this was realized by the civil servant—also someone from abroad, but in the condition of immigrant worker excluded from the selected group I had just entered.

Becoming a member of a university, in current global times, means crossing a door in theory open to anyone, but in fact mostly restricted to the elites. In southern countries like India and Brazil, with very unequal societies, Universities (especially public ones) and Government struggle to implement the project of including everyone in the university community, as opportunities of access to quality basic education—which determine the chances of later accessing universities—are not equal from the start. Aiming to reduce this gap, Brazilian governments institute policies of affirmative quotas to benefit at-risk groups. Since 2012, a law⁵ establishes the obligatory reservation of 50% of vacancies of 59 Brazilian public universities and 38 federal institutes of science and technology to individuals coming from public schools or individuals that consider themselves as belonging to ethnic groups like black, brown (“pardos”) and Amerindians (Andrade 2004) (the other half of vacancies is filled through grade-based ranking without priorities). Brazil, it must be noted, has the largest black population in South America, but universities and private elementary and secondary schools are still predominantly white. The effectiveness and adequacy of the quotas have been under debate since their legal enforcement, not only inside the universities but across Brazilian society.

One of the crucial aspects in this debate is mentioned by Misra and Mishra (2018) when referring to efforts of the Indian Committee on Corporate Participation

⁴“Le seuil est par excellence le lieu où (...) s’initient et s’achèvent les «rites de passage» : lieu de sortie, de séparation de sa communauté d’origine, il est aussi le lieu qui marque l’entrée et où s’opère l’agrégation à une communauté nouvelle” (Arnold Van Gennep, in <http://tinyurl.com/ybbg28cr>).

⁵Brazilian Federal Law n° 12.711, from 29 August 2012—<http://tinyurl.com/ng7a7rf>.

in Higher Education, established in 2012 and accused to “(...) accept a massified HE (higher education) without quality substance”. This is, in fact, a global dilemma, a societal debate everywhere.

Evaluating Universities

Evaluation is a pervasive, global idea that is central to universities all around the world. Evaluation is directly linked to competitiveness, as pointed out by Satsyk (2018) in the title of his chapter, and competitiveness is the condition to the maintenance of universities. Evaluation, on the other hand, is the way through which society and its political instances can influence university profile and targets. In the context of the Ukrainian scenario, Satsyk points out some crucial determinants of competitiveness of universities: they are, in general, “(...) internationalization of education and research activities, sweeping innovative changes in teaching and science, broad diversification of fundamental and applied research”. Yes, but as the saying goes, *you get what you pay for*: how much does it cost to build a good/excellent competitive university? According to a study of 50 countries conducted by the same author (Satsyk 2014⁶), the “optimal” amount of average government spending, in order to ensure maximum representation of universities in the world rankings and high-quality higher education, is about 6000–18,000 USD per student/per year. In Brazil, the cost invested is about USD 5000. As pointed out by Satsyk “(...) universities from developing countries have to deal with advanced research and improve quality standards of higher education simultaneously (a combination called “breadth” and “depth” strategies at university level)”. This is a second dilemma, close to the exclude/include one: how to provide means for general standards of teaching (undergraduate level) and, at the same time, advanced, innovative research? This very question has also a clear impact on planning teachers’ careers.

According to Heidmets and colleagues (2018), there are at least four groups of relevant players concerned with evaluation of universities, each of them with specific interests and aims: the state, the academia, the market and the students. For these authors, “(...) a common and shared understanding of a “good university” or an “excellent lecturer” does not exist”. We completely agree. It also has important political consequences in countries where the choice of leading administrators (rectors, deans, directors of joint academic unities) is based on vote—as is the case in most Brazilian public universities.⁷

⁶Quoted in Satsyk (2018).

⁷The indication of rectors for Brazilian public universities was based on lists elaborated by colleges of professionally distinguished academic staff members of concerned universities. These lists were usually compounded by six names of indicated candidates (sextuple lists—“listas sextuplas”—in decrescent order of recommendation from the first to the sixth name), and the president of the Republic had the institutional authority to choose one among these six names,

Evaluation of universities, in a global-comparative way, leading to international rankings, forces evaluators to establish parameters, and these parameters must be objective, explicit and rigorously defined. Here again, the diversity of activities covered by a university makes it difficult, perhaps impossible, to be equally objective when evaluating research and teaching, for example, as discussed by Heidmets and his colleagues. In Brazil, as in many other countries, university research is centrally evaluated according to the quantity and quality of specific products—papers/chapters/books published and effectively read (i.e. published in journals with high impact factors⁸) by the members of the scientific community; projects with their own budgets; and patents—are among the most important products, as discussed by Stavtyskyy (2018) in his chapter. In this context, specific domains internally generate their evaluation criteria, through the annual average number of publications, or the indication of the best products in a specific period. Expressing quality in terms of numbers is, per se, a very difficult activity, but at the same time widely disseminated. The task can be even harder, as in the case of trying to propose “products” in order to evaluate teaching, services, social engagement, among others.

Prestige and Money: Power for Universities

What should the profile of a good/excellent teacher in these globalizing times be? Heidmets and colleagues (2018) ask this very question in their chapter. Here, once more, the struggle between societal (external) demands and academic (internal) ones is present. Society, as pointed out by Heidmets, “(...) is not a coherent whole with universal expectations”, but is instead “(...) composed of very different interest groups.” In fact, three groups compose the societal source of demands, as mentioned by these authors: the “state”—seen as government/political forces worried about general policies (as, for example, *should our university system be clearly connected to our specific demands?*); the “academia” mainly worried about offering teaching and doing (pure and applied) research; and finally, the “market” worried about paying for papers, but especially for products and industrial patents. We very much agree with Heidmets and colleagues’ comment that “(...)

independently of any ranking order, or to refuse the whole list, asking for another. This system lasted until the end of military dictatorship in Brazil, being modified after re-democratization in terms of the constitution of the sextuple list, that turned to be based on a voting system with the whole university community: teachers, students and technical staff (even though there still exist some variation in the proportional participation of each of these three segments for the final result of the election).

⁸As explained and discussed by Stavtyskyy (2018), the impact of an academic journal is objectively indicated by the The Impact Factor or Journal Impact Factor (JIF)—a measure reflecting the yearly average number of citations to recent articles published in that journal (cf. <http://tinyurl.com/n9syy2p>).

expectations of different interest groups may not only differ but sometimes even contradict each other.” Additionally, this contradiction has a clear impact on teachers’ choices and careers. If a university teacher aims to be known for the excellence of their teaching, they will be disappointed sooner or later: nowadays, a socially recognized university teacher is one who effectively develops research and, of course, publishes the results generating impact.

What is pointed out for Tallinn University by Heidmets and colleagues (2018) also holds in Brazil and probably pretty much everywhere: “(...) the position of a university lecturer is degrading and changing from an honourable intellectual to a knowledge worker.” “Knowledge workers” have increasingly low social reputation in the whole academic system—they have very limited chance to obtain budget support for any supplementary activity, as academic missions abroad, for example; the implacable logic of “publish or perish” became a mantra and an academic death sentence for most teachers in contemporary universities. On the other hand, as pointed out by Heidmets and colleagues 2018, lecturers and students differ clearly in their evaluation of a good university, and in their recommendations in order to build a university of excellence: for lecturers, research, development and creative activity are the main aspects to take into account in university institutional plans; while students strongly emphasize teaching and learning as crucial. Interestingly, the report mentioned by Heidmets and colleagues state that “(...) happiness and successfulness of graduates are not mentioned [as relevant aspects in universities evaluation] by academic staff at all”.

Each of the three actors mentioned above (state, academia and market) are heterogeneous, as pointed out by Heidmets and his co-authors. Academia, for example, is proposed by these authors to encompass administrative staff (rectors, deans, presidents, directors of academic unities, etc.), and full-time academic personnel (teachers in various career levels). Their interests, emphases and worries, are not always convergent, but very frequently these teachers are invited to assume administrative responsibilities—even though these researchers have no administrative experience at all. This aspect, combined with the need of taking into account, simultaneously, academic and administrative–legal demands, has sometimes dramatic results: in October 2017, a Brazilian rector from an important public university—Federal University of Santa Catarina—committed suicide by leaping to death from the top floor of a shopping centre.

This reflects a structural difficulty, in many countries, and especially in Brazil. It is difficult to establish a dialogue among new scenarios of universities that try to advance in research, teaching and innovation, and the justice system based on previous, more conservative regulations that frequently mismatch new arrangements between public and private interests as corruption and inadequate use of public funds.⁹ The same explanation applies to the arrest and coercive conduct of

⁹The Brazilian “Lava Jato Operation”, inspired by a similar Italian initiative, called “Mani Pulite Operation”, is a large police operation with 39 phases so far, that has already produced a deep impact on Brazilian politics and public administration. The operation led to the arrest of former

the rector and vice-rector of the Federal University of Minas Gerais, in November 2017, accused to have inadequately used public funds. Are these academic authorities dishonest? For those who have made this move from scientific laboratories to university administration offices, which is probably the case of many contributors for this book (including myself), the main challenges to accomplish are to acquire a complex set of abilities and competences in quite a short time (since we—teachers and researchers—were not formed in public administration), and to engage our private responsibilities (and even our honorabilities—what seems to be the crucial explanation for the suicide of University of Santa Catarina’s Rector) when taking some technical decisions with serious legal consequences. That is the case, for example, among Brazilian university administrators of research who must decide if a project concerns effectively or predominantly research (instead of services, or teaching), in order to authorize the payment of scholarships, that are exempt of taxes according to Brazilian law. If a university responsible of this sector agrees in evaluating a proposition as a research project, but audit authorities disagree, the responsible person will be preliminarily considered suspicious and even eventually arrested, depending on the interpretation of a federal judge. In Brazil, nowadays, being inculpated is the same as being guilty—the traditional press and social networks amplifying this inquisition procedure.

The stress reported above has, nevertheless, a positive face: we leave, in global terms, a process called by Misra and Mishra (2018) a “knowledge-driven industrial revolution.” Knowledge-building sites are moving from universities to private, commercial establishments; that is the case for many countries among those hosting the world top ten universities, as USA, South Korea and Japan. This revolution changes drastically a lot of patterns, beliefs and attitudes, beginning by the profile of universities budget providers. Universities around the world are (or might be) today integrated to their respective country’s economy, and all countries are integrated to world economy. Usual representation of scientific researchers as monks exempt of any interest in personal profit, and laboratories completely funded by public budget and equally prohibited of benefiting from their industrial patents, are by now completely withdrawn.

Final Remarks

People use to say that the only way to be global is first being local. In fact, global tendencies are always locally translated, adapted or customized—there are plenty of terms to describe this dynamics between the specific, locally situated, and the

ministers, the ex-president of the House of Representatives, a senator and staff from the country’s main civil construction companies (<http://tinyurl.com/yb497nu3>).

general, the global, those phenomena occurring outside and through the borders. In universities, the very topic of globalization (sometimes connected to the topic of internationalization) is frequently submitted, to some extent, to a political–ideological debate, concerning: (a) the need of taking into account the responsibility of a local–regional–national agenda of aspects; (b) such agenda probably having no interest at all for foreigners.

As vice-president for research in Brazilian Federal University of Rio Grande do Norte, located in northeast of Brazil, I frequently hear such twofold argument against the need of internationalization (through publishing in English) from Human and Social Sciences researchers. “*What is the use, for a Japanese anthropologist, of the specificities of Brazilian hero Macunaima¹⁰—the fictive representative of Brazilian ethos?*” On the other hand, physicists, biologists, chemists and other “hard-science” workers are highly unlikely to ask similar questions. This is a problem for me, as university vice-president for research, since we try to have general rules to central domains of university life—such as research. In this context, the usual consequence is the establishment of a two-level organization of “international” (first-rank) domains, and “local” (second-rank) domains (with written communication in Portuguese).

Yes, the character Macunaima can be universal, international, a matter of interest for Japanese and other foreigners, as much as Japanese Kabuki theatre could be interesting for Brazilian students of arts and many other domains. Being able to be in contact with diverse *weltanschauungs*, through very local, “private” phenomena, is a civilizing exercise. As proposed by Jaan Valsiner, “the developing person moves towards constantly open horizons both in the interior of one’s Psyche and in the exterior of one’s exploration of the external world and creating its meaningfulness through signs. Persons create signs and, through these signs, themselves, in their human uniqueness.” He concludes pointing out that “The person is social because he/she is constantly transcending the immediate social context through semiotic mediation: “I am X but today I want to act as Y” leads to new personal experiencing that in its turns leads to the person actually becoming Y” (Valsiner 2014, pp. 64–65). It is possible being global though the uniqueness of being X_ or X-ian: Japanese, Portuguese, Brazilian, American, Estonian. It is not only possible but also necessary, in order to amplify the opportunities of dramatic collisions (Veresov 2014; Vygotski 2014).

Globalization of universities is submitted to the same tensions of globalization in general: this is a world of unequal opportunities. If universities in New Zealand, as mentioned by Robert D. Greenberg (2018) in his chapter, can elect enrolment of foreign students as a criterion for national university evaluation and budget allocation, this is much more difficult to universities from countries that historically have been sending students abroad, much more than receiving. Inequalities, by the

¹⁰Macunaima, novel written by Mario de Andrade and first published in Portuguese in 1928, and one of the masterworks of Brazilian literature, is a comic folkloric novel about the adventures of a popular hero whose fate is intended to define the national character of Brazil.

way, can equally occur inside countries: large countries like Brazil have universities very well evaluated, according to international criteria, and at the same time universities that seem to have dramatically stopped in the historical movement. Finally, inside each university in many countries it is possible to find once more, in miniature, the same global gestalt of diversity and inequality of importance, social place, power and access to opportunities. As Brazilians use to say, *rivers go towards the sea....*

Universities were born in the context of paradoxes—this is the main source of their historical, political and cultural interest. The paradoxical movement of opening the arena of debate to all those able to offer a good idea, together with the protection of a specific community by the establishment of admission and career criteria, is in fact constitutive of universities, across time and geography. Global competitiveness is, once more, a context where paradoxes are present; if we take a look at the list of “key determinants of the global competitiveness of universities”, summarized and discussed by Satsyk (2018) in his chapter, we soon realize how difficult it is to carry out all requirements: consider, for example, being able “to achieve international competitive advantages in scientific research” and “to perform important social tasks for society”. Efforts to face diversity, as those mentioned by Borkowski (2018) concerning the diverse funding schemes of research in Poland nowadays, are central to all those engaged in university management. Universities were born to be for all, but very soon became a specific union for few Latin speakers, inside Parisian Latin Quartier. Latin became English, but universities keep the structural feature of being a locus of culturally, historically situated inquiry, in a context of constitutive dilemmas.

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Part IV
What Kinds of Knowledge Makers?

Chapter 17

Selected Theses on Science



Eugene S. Kryachko

A lifetime's worth of wisdom.

Steven D. Levitt.

(co-author of "Freakonomics")

[see, e.g., Humboldt Kosmos 99, 20 (2012)].

Only a lazy researcher¹ would not think and write about a recent reform of the National Academy of Sciences of Ukraine (Dezhina 2014). I do not, however, count myself among those. Below I offer my, slightly more advanced, perhaps naïve—as might seem to many, theses on science and its contexts. These are the results of my thoughts of a typical scientific “workhorse” with the experience of more than 40 years working in the field of science. They are based on my experience. I believe my theses do not require any specific knowledge for understanding. To some they may seem trivial.

¹I avoid to use the word “scientist” (*uchenyi* in Russian—“the knowing one”). Lev Landau called himself a “proletarian of a mental work” and did not like the word “scientist” because as he claimed—“scientific” can only be a cat (Gorobets et al. 2009). More appropriate word here is the researcher. The term “scientist” was also alien for V. Vernadsky (by analogy with the office and commercial workers). He only accepted the term *workers of science* and considered himself as one of them (Vernadsky 2004, p. 17):

these people in general accomplish a great deal, because it is among them that produce those who make their society a new one. These people, who do not fit into the present, create the future. They violate the aspirations of society for the average, impersonal. The more in the society of such people, the more diverse and stronger its culture.

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Introduction

While, the key goal of this story goes actually to the dictum of Aristotle that started his famous Book “Metaphysics” 350 BC (Aristotle 2014) (its primary name was “First Philosophy” and book was divided into fourteen books [usually named after the first thirteen letters of the Greek alphabet: Alpha, Alpha the Lesser, Beta, Gamma, Delta, Epsilon, Zeta, Eta, Theta, Iota, Kappa, Lambda, Mu, and Nu]): “All men by nature desire to know.”

This statement illustrates men’s aspiration to learn and to gain a new knowledge about the outer world, the Universe (see Fig. 17.1): from the unknown to the knowledge, that implies to learn or to accumulate the knowledge acquired. Per se, this is the science, its essence, aim, and tasks. Herewith, Weyl (1954) at the end of his lecture “Unity of Knowledge” at the Bicentennial Conference of Columbia University defined the main components of knowledge: “intuition, mind’s ordinary act of seeing what is given to it, understanding and expression, thinking the possible, and the construction of symbols or measuring devices” (Weyl 1968, pp. 623–630). We will talk about this below.

Phenomena, Contemplation and Beyond

The true mystery of the world is the visible, not the invisible

Oscar Wilde

In school, we learned that science—if we were aware at that time of the meaning of this word: it was perceived either as arithmetic, physics, biology, or chemistry—is not a simple thing! On the one side, all that was not that easy. On the other, that was easy enough, if we were absorbed in studying of popular scientific journals. There were a lot of them in Russia (then Soviet Union) when I was at school: “Young Technician,” “Technics of Youth,” “Science is Power,”² “Science and Life,” “Chemistry and Life,” “Round the World,” and they were published in large numbers. In contrast, when Alexander von Humboldt published “*Kosmos*” in the 1840s—the multi-volume series of intellectual and comprehensive treaties on nature and science—such widespread nature of science in the public sphere was not yet there. Nowadays, it is.³

²Since that time—journal is published since 1926—I remember that words “Knowledge itself is power” by Francis Bacon, which were on the cover page. See also citation to Section “[Effectiveness and quality of Science: Expert Appraisal](#).”

³Botting (1974) elaborates that *Kosmos* has important role for the Alexander von Humboldt Foundation, which has gathered over 25,000 scientists from more than 130 countries all over the world—in fact, in a sense, the scientific or Humboldt net, network—www.humboldt-foundation.de—naturally incorporated into the world scientific networks, such as the American Physical (aps.org) and Chemical Societies (acs.org), ResearchGate (www.researchgate.net), and the others.



Fig. 17.1 Mankind’s eternal aspiration of puzzle: image. Eternal aspiration of humanity is driven by curiosity [A.D. Sakharov (1989) in his lecture “Science and Freedom” (Gorelik, 2004, 2014) noted, that “Our apelike ancestor, probably, was very curious creature. <...> Curiosity was the basis for fundamental science. It’s still brings us practical results, which are often unexpected for us” (quote is translated from Russian). [Reproduced by permission from Newspaper “Den”, 2011]

Let us turn to definitions. *Nature* is a world that surrounds us, the outer world for us, world beyond us, or Universe, if you wish. Nature (Universe) appears to us through the act of appearance—a phenomenon [as in Greek, word φαίνόμενον (phainomenon), from the verb φαίνειν (phainein), means “to show, appear, shine, to be manifested, or manifest itself] or “experiences.” The term “phenomenon” entered philosophy due to I. Kant (see Kant 1770, 1994). Each phenomenon, as inferred from its above definition as an act of appearance, is observable and can be detectable, either by means of human senses or measured by human-made instruments. The former manner of observations—perceptual contemplations, via sensations—is rather limited, simply for physical reasons.⁴ As an example, our senses are incapable of telling us whether the Earth is revolving relative to its axis and around the Sun, about the nature of the forces keeping planets on their orbits, about electromagnetic fields, death, and so on.⁵ The latter is also limited, though its limits are beyond those of the former. The Truth—Nature, Universe—is presumed to exist independently on any observation implying therefore, that a “real phenomenon,” or object, is not identical to an “observed phenomenon” or subject.

⁴A trivial example: a toad enables to see only oblong objects (Heisenberg 1958, 1977).

⁵We’ve already learned about senses and their role in philosophy from Lenin’s “Materialism and Empirio-criticism” where he defined matter as “Matter is the objective reality given to us in sensation.” Some logical inconsistencies of this definition and its discrepancy with the principle of “Occam’s razor,” according to which, words which do not correspond to some observable matter, should not be used, are analyzed elsewhere. See, for example, <http://nohead.narod.ru/dannaia0112.htm>.

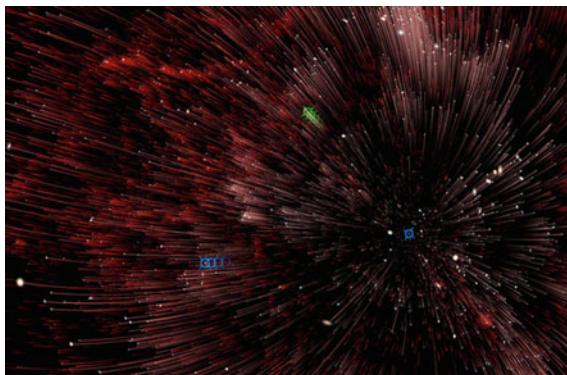
“Dark Universe” is a space show at the Hayden Planetarium, which was shown there by Mordecai-Mark Mac Low, a curator at the American Museum of Natural History, about the history of the Universe outside the Hayden Planetarium eight years ago, he says, when a schoolteacher approached him and said: “You don’t really believe all this Big Bang stuff, do you?” Shades of those bumper stickers and billboards you see in some parts of the country: “Big Bang? You’ve got to be kidding—God.” It also introduces a recent article “What You Can’t See Is Even Cooler” by Dennis Overbye published in the International New York Times on October 31, 2013.

We understand phenomena or subject via perceptual contemplations, which is the first source of knowledge according to Kant (see Part II.I. Kant 1770, 1994). In this case, *a subject* is “given to us” and “appears.” Further, we consider it by giving it a meaning. We imagine and cognize it.⁶ As a result, notions arise. Thinking of *notion*, we understand a form of “thinking about subject, in general.” Saying in other words, we cognize a phenomenon via application of our knowledge to the phenomenon. It is important to note that subjects of cognition are on their own irrespective of cognition, of contemplative and conceptual-logical forms, by means of which these subjects are perceived and conceived by us, by our consciousness (Asmus 1973). “Consequently, contemplation and notions—are the gist of our every cognition, as neither notions without relevant to them cognition, nor cognition without notions can not provide the knowledge” (see Part II.I. Kant 1770, 1994). *Knowledge*—is a consolidation of both, it’s a representation of phenomenon, perceptually contemplative and conceptual. When this representation becomes identical, then truth or “equivalence between knowledge and its subject” is reached (see Part II.III. Kant 1770, 1994).

Let’s make a step aside. Reasoning logically, we may suggest an existence of thing, or an object, which is not-cognizable, which is not directly accessible to observation: “a thing that is not thought of as an object of the senses but rather as a thing-in-itself” (see Fig. 17.2). To some extent, they are opposite to “phenomena.” Immanuel Kant has introduced a notion of “*noumenon*,” which is “Ding an sich” in German, and “thing-in-itself” or “thing per se” in English (Kant 1770, 1994). A rough English equivalent of “noumenon” is “something that is thought” or “the object of an act of thought,” “a transcendent object.” The concept of a noumenon, as Kant explained (Kant 1770, 1994), “is necessary to prevent sensible intuition from being extended to things-in-themselves, and thus to limit the objective validity of sensible knowledge” (Kant 1994). An unknowability of noumenon means, as Asmus (1973) emphasized is in the expansion and deepening of our knowledge, as it occurs in the subjective forms of sensibility and understanding, is cognition of only phenomena, not of things-in-itself. In this sense, according to Kant (1770), mathematics is not a reflection of objective reality and reliable only for us, as consistent with inherent for us forms of sensibility and understanding.

⁶Intellect, according to Kant, is the ability to cognize subject for perceptual contemplation. Science about rules of intellect is “a logic, within which mind deals with itself, only” (Kant 1770).

Fig. 17.2 Space show “Dark Universe.” Reproduced by permission from American Museum of Natural History, 2013



Science: Definition

The word “science”⁷ is rooted to the Latin “*scientia*” that means “knowledge.” Science is a sphere of human activity directed to the creating a new knowledge of nature, man’s process of discovering phenomena and understanding the relationships between them and their nature,⁸ thus demonstrating the harmony, the unity of nature, by means of unraveling myriads of painstakingly collected data (Helferich 2004), and “obtaining knowledge about the actual character of physical reality” (Kafatos and Nadeau 2000), extracting information (Brillouin 1956) from phenomena, and explaining *why* and *how* they do manifest themselves these given ways; the mankind’s aspiration, the approach to perceive the truth of the whole, if the latter does exist and achievable, perceptual (Connes et al. 2001), as the body of empirical knowledge (the knowledge obtained by means of experience) represented as some information.

The purpose of science is to achieve the truth on the way to a new knowledge. The truth, as Immanuel Kant wrote (see Part II.III. Kant 1770, 1994), is the correspondence of knowledge with its object. However, the key question is how to “find a universal and true criterion of the truth of all knowledge”?

⁷Editors’ note: The English word “science” became established in the 1830s as a translation of the German notion *Wissenschaft*.

⁸A bright example of “how understanding arises” was given by Carl Friedrich von Weizsäcker (Von Weizsäcker 1973, Footnote 7, p. 745): “In his simile of the cave, Plato describes people who are sitting in the cave and looking at the wall, there they only see the shadows of some things which are transported behind their backs. Then they are turned around or at least one of them is turned around completely in order to see the reality. Then he suddenly realizes how unimportant is the great art of the people, who have been sitting with him looking at the shadows. This is the art of predicting what shadow would follow the other one. They take the shadow to be the real thing. But this art is far surmounted by the understanding of one who sees the real thing. But then, he has seen only the things which are carried behind their backs in the cave. He goes into the outer world, and there he sees the shadows of things in the light of the sun, and he sees real things in the light of the sun, and then he may see the sun itself.”

Science, of course, demonstrates the harmony and unity of nature. Science “obtains knowledge about the real nature of physical reality” (Connes et al. 2001) by means of solving myriads of thoroughly collected data (Helferich 2004), of extracting an information (Brillouin 1956) from the observation of phenomena. Science reflects the desire of mankind to comprehend the truth in general, if the latter exists, accessible and knowable (Connes et al. 2001) to comprehend the truth as a kind of “body” of empirical knowledge gained by observing the knowledge presented in the form of some information. Its driving force is as perennial question *why* from the sub-cortex of curiosity (Haas 2013) and mysteries of the surrounding world.⁹

Science is a way of understanding the world of phenomena through research, which aims to formulate the laws of this world using scientific induction (Bacon 1620; Popper 1963), and create a series of models with increasing predictive power in order to simulate the resulting image of picture of the reality, which displays, in appropriate terms, the world into the ourselves—so-called “*Language*.” This is what gives meaning to Science (Jennings 2006):

Scientists, it seemed clear, began with careful observations, cautiously proceeded to a tentative hypothesis, progressed to more secure but still provisional theories, and only in the end achieved, after a long process of verification, the security of permanent laws. Newton saw the apple fall, hypothesized that it had fallen at one speed rather than another for a reason, theorized that there might be an attraction between all bodies with mass, and then, at long last, arrived at a law of gravitation to explain everything. This “observation up” or “apple down” picture of how science works was so widespread that it defined what we mean by science: when Sherlock Holmes says that he never theorizes in advance of the facts, he is explaining why he can be called a scientific detective. Various thinkers poked holes in this picture, but generally their point was that, while the program was right, it was harder to do than it appeared. (Jennings 2008)

To achieve this goal, Science demands a language whose words are the means by which men convey information to one another—to paraphrase an old saying: “a look (observation) can be worth a thousand words”—and the method used to determine what is a “truth” ... a criterion of truth (Pika 2012). Language of science must be understood to all scientists. So, mathematics¹⁰ is such language—a sort of monism. Why? I think it all came from the Greeks. Kline (1982) wrote that “the Greeks discovered the power of the mind,” which the man is endowed with, with

⁹In personal notes “Equinocial Regions of the New Continent during Years 1799–1804” (London 1814, Vol. 1, pp. 34–35) about his wanderings, Alexander v. Humboldt wrote: “The very nature of sublimely eloquent. Stars as they shine in the firmament, fill us with joy and ecstasy, and yet they are all moving in the orbit determined with mathematical precision.”

¹⁰The word “mathematics” comes from the Greek μαθημα (máthēma), meaning language, “what is taught,” i.e., “Science.” That is why the attitude to mathematics as “the science of sciences,” “the queen of sciences” (Loktev 2013).

“the mind, which, based on observation or experience, is able to discover truths” (Kline 1982, p. 19). Mathematics, in turn, united, and unified the whole science. Well, there is more on that below.

I’ve stated earlier that under processing observations and experiments as well as under constructing hypotheses and formulating the laws of nature, Science utilizes the scientific method of induction that states that “the observation of phenomenon X corresponding to hypothesis Y , increases the probability that the hypothesis Y is true.” Therefore, the recipe of the scientific method is seen the following three points:

- (1) First of all, we build a kind of intuitive hypothesis or assumption Y ;
- (2) then, we observe a number of phenomena, using man’s sensory cognitive abilities and draw a conclusion that is based on the man’s capacity to the abstract thought and strict laws of formal logic, and particularly, on the principle of induction;
- (3) the latter corrects the hypothesis Y and converts it into the final hypothesis Y' that explains these and other observations. As a result, the hypothesis Y either is rejected or becomes the truth, i.e., the law. And, whether is actually that, strictly speaking (sic!—tautology), logic that governs the nature, the nature that acts by the laws we—the human mind—ascibe to it?

Actually, whether mathematics, as a continuation of the logic (Russell 1903), is that fount of rigor, “immutable truths in themselves and truths about the laws of nature?” (Kline 1982).

Paradoxically, the induction principle is self-contradictory itself, and it is contrary to our intuition. This fact has been formulated as a paradox of confirmation (Hempel 1943), the paradox of “black ravens” of Hempel is expressed in statement that “All ravens are black.” Being far of a skeptic, I would not say so affirmatively that the Hempel paradox has yet been finally resolved, although the principle of induction could be replaced by Bayes’ theorem (Bayes and Price 1763; Efron 2013).

Taking a pause, I note on one side that, to my mind, the paradoxes in science could shake the foundations of the theory of science in general and induce the paradigm shift that was introduced by Kuhn (1962) in his book “The Structure of Scientific Revolutions.”¹¹ On the other side, if logical paradoxes arise, whether does that mean the logic we invoke for our cognition of nature, i.e., the logic that is the foundation of knowledge, and, hence, of the science, is flawed and should be replaced by a more suitable for these purposes?

¹¹To complete this Section, I would like to illustrate it with the quotation from works of Osip Mandelstam (1972): “Contradictory views, or paradoxes, played a significant role in the history of science. Two kinds of views are in conflict, and the latter causes a further movement of science forward giving the development of this conflict.”

Digitizing of Society and Science

All Things Are Numbers

[Everything is a number]

Pythagoras of Samos

... the Pythagoreans... took numbers to be the whole of reality, the elements of numbers to be the elements of all existing things, and the whole heaven to be a musical scale and a number

Aristotle, "Metaphysics"

Again, I recall my school days before the Millennium. Information at that time either dropped out with ink droplets from our pens (raise your hands, readers, who still remember them?) or resulted from a scratching of blackboard in the classroom by piece of chalk. I recall that at that time there still were working horses—"now they are a rather expensive entertainment and kind of unit" as Huseynov (2014) wrote on the pages of "Novaya Gazeta." Now, in the Millennium, novels are written in the SMS formats on smartphones (among other things, a very handy gadget to store, which, however, is losing to slate, if it is used without the mobile phone option). People use Instagram and post selfies, saying literally, at random, with no need that glossy magazines are crying: a man, living at this speed and within such a dense information environment that includes use of transport, loses his/her own personal informational self-space and starts to identify themselves with the face of the selfie kissed by "like" kind of informational bits and glances at the smartphone, as some kind of a his (her) body part.¹² The elders witnessed that in particular. They are "digitized" as 60(=XL)⁺.¹³ Everything is cloned by means of 3D printer.¹⁴ The information world has become confusing or, as they say in the quantum theory, due to Schrödinger, "entangled" ("Verschränkung"). It is sort of network, kind of "ch-loveinik" (precisely in Russian meaning man-ant-hill (Zinoviev, 1997). Oxymoron!

The outlined picture is not, however, so depressive as it looks. Within the context of these Theses, science after millennium becomes livelier (Palagin 2014). Actually we live in a time of transition from informational to the knowledge-oriented society which is based on sophisticated informational technologies. These technologies provide the user with any possible level of solving problems of the highest complexity. These are the technologies which provide the rapid progress of modern civilization. However, I believe, this implies the end of science as a cognitive activity. Though in fact, if there exist some equations that describe everything or nearly all phenomena of nature, then, according to this point of view,

¹²The first place in Russian Web (Ru.net) is taken by search of the words "to download (watch, listen) for free"? (Zinoviev, 1997).

¹³Do you actually meet 70+, 80+, and so on somewhere? By the way, the author of these lines is still lingered in the "group" aged 60+.

¹⁴There appeared some information that 3D printers which can print food and for which "there is nothing impossible" are brought to Kiev. Thanks God, XL-printers that can breed babies in test tubes and get the smell of the earth after the rain have not yet been invented.

they can be solved. That is, in the other words, the truth is achieved. What remains then for Science? With this question mark, I would like to close this part.

Now, I think, it is the right place to return to the *Y* hypothesis. In the majority of cases, it has a physical content. In the other words, it is based on the conclusions borrowed from physics as one of the science areas itself and about which Ernest Rutherford, who treated himself as a physicist said (after was awarded with the Nobel Prize in Chemistry in 1908): “All science is either physics or stamp collecting.” Whether it sounds quite ironically that the word “physics” originates from the Greek (Greek, again!) word “φυσικῆ,” meaning “nature,” or precisely, “a study of nature” (Bayes and Price 1763)? A kind of monism, again. Within this context, the rejection by Newton of physical terms and the introduction of mathematized equations and transformation of the whole of physics into his “Mathematical Principles of Natural Philosophy” become clear.

Later on, this idea, the doctrine of logical empiricism—to unify, to mathematize science—was the key one in a so-called Vienna circle (see Stanford Encyclopedia of Philosophy, n.d.), where such famous scientists as Hans Hahn, Moritz Schlick, Philip Frank, and Rudolph Carnap tried to show that all science can be exclusively incorporated on the basis of mathematics and symbolic logic and, in this sense, computerized or “digitized,” according to the Stanford Encyclopedia of Philosophy (2011). Carl Friedrich von Weizsäcker came up with the similar conclusion, little later, when in the mid-1950s suggested his own *Ur*-theory or the theory of *ur*-alternatives (archetypal objects) (von Weizsäcker 1971, 1992, 2006; Görnitz 1988; Lyre 1995). According to this theory, everything in the Universe, either matter or energy, is actually information. The main thesis of his theory is “*Energy is information.*” Von Weizsäcker called this approach “radical atomism.” He defined the information of an event as the number of completely undecided binary alternatives that are decided by the occurrence of the event. Within the same theory, He postulated that an arbitrary object (matter) can be partitioned into the smaller composed pieces—Is there a limit to divisibility?—until all statements about it are reducible to binary inferences: “yes” or “no,” “plus” or “minus,” “be” or “not to be,” “0” or “1,” and so on, namely the Boolean algebra (see, e.g., Hansen, n.d.). To realize this view von Weizsäcker looking for the most elementary form that can be really there investigated the term of information. He states that information can be defined as the quantity of form. In fact, von Weizsäcker’s *Ur*-theory is a form of digital physics or, more generally, the digital sciences, which roots at the “Vienna circle”.¹⁵ The basic postulate of *Ur*-theory is the existence of such mapping:

$$U: [\mathbf{H}] \rightarrow C^{2 \otimes n} := \otimes_n C^2 \quad (1)$$

¹⁵If to talk about the digitalized science, we can think of Neptune Planet, which was “discovered on the tip of a pen” by American astronomer Percival Lawrence Lowell (Liubarsky 1983) (thereby obscuring the role of numerous observations of the motion of the planets, which led to this “pen”), and, then, was “re-discovered” with the help of telescope.

between the quantum state vector $|\psi\rangle \in \mathbf{H}$, the Hilbert space of quantum states, C^2 —Hilbert space of Boolean functions, or *ur*'s, i.e., $f: Z_2 \rightarrow Z_2$ where $Z_2 = \{0, 1\}$ is a bit (see, e.g., Nielsen and Chuang 2000; Kryachko 2011). The minimal n , for which the mapping (reflection) (1) is reversible, called the information content of the given quantum state, or the number of *ur* (von Weizsäcker 1971, 1985, 1992, 2006; Görnitz 1988; Lyre 1995). It is worth noting that for the photon, n is large and reaches about ≈ 1030 , which is in line with the arguments of Eddington (1931) and of Dirac (1937).

Ur-theory of von Weizsäcker is one of the forms of so-called numerical physics, a part of the “pancomputationalism,” which is based on assumptions that Universe is computable and, therefore, can be described with the use of information. Quantum Digital Physics was recently developed by Deutsch (2001), Zizzi (2003) and the others. In this regard, it is worth to mention the 2013th Nobel Prize in Chemistry awarded to Martin Karplus, Michael Levitt and Arieh Warshel “For the development of the multiscale models for complex chemical systems” (see, e.g., Kuzmin 2014). From the point of view of the Digital Physics, the entire Universe can be hypothetically observed as a huge quantum computer (Wolfram 2002; Schmidhuber, n.d., ‘t Hooft 1999; Lloyd 2006) that models its own future!

Science in the Modern Society: Change of Paradigm

For knowledge, too, is itself power

Sir Francis Bacon

In his work “Scientific Thought as Planetary Phenomenon,” V. I. Vernadsky (1997), the first President of the National Academy of Science of Ukraine acclaimed that biosphere of the twentieth century becomes *noosphere* created, first of all, by the progress of science, scientific understanding and, based on it, the social labor. A. D. Sakharov shared this view of observing science as a part of civilization (Gorelik 2004), part of the Noosphere which notion was introduced by Vernadsky (2004). In his lecture “Science and Freedom,” Sakharov (Gorelik 2004) concluding the results of the twentieth century, reminded that it was the century of world wars and genocide, but, nevertheless, called it a century of science that (Gorelik 2004):

1. On the “end-in-itself” basis carries out the desire of the mind to knowledge;
2. Becomes the main labor force, and;
3. Unites the mankind.

According to Marx and Engels (1969), science is a “general social knowledge,” “general powers of the human head,” and “general intellect.” Science is permanently developed and during the first scientific and technological revolution

becomes a labor force. With the beginning of the twentieth century, science united with the production: machinery, automatized production, use of computers. Further, we witnessed a unity of science and production via fusion of science and production through engineering and pipeline organization of production. At that particular time, science became the main production force that uses scientific knowledge to design and develop new technologies on the basis of science. The latter—which provide the production of more than 90% of the social product—presently replaced the traditional natural technologies. These are, in particular, nanotechnologies, called the technology of the twenty-first century, and development of new materials such as fullerenes and graphene. Distinction of science from the other types of human activity lies in that an important role the element of insight, creativity, genius, and search of an idea that alike the others play in science. However, science is not only a labor force. It is a form of social consciousness that reflects a reality, in a form of systematic knowledge that it exists regardless of the knowing man.

The contribution of the fundamental sciences is extremely important. And here, in my opinion, there appears a modern paradox which has globally changed the public consciousness. On the one hand, the fundamental science went into the status of the labor forces and, on the other hand, modern production, demanding “the implementation of scientific research and scientific approach, began increasingly resemble to science” (Turchin 2000). In the process of production—which creates the product of labor including both material goods and services in the case of material production and a new knowledge as in the case of science—the labor forces enter into industrial relations. The latter determine the distribution of wealth within the society that is necessary for its existence and development and for human needs fulfillment. The distribution depends on the work and carried out in accordance with the quantity and quality of labor. Product of science is a knowledge which is represented as a set of data, or information: the data gathered in articles, reviews, books, dissertations, reports, patents, and so on. Information becomes a “tool of trade” in science and “behaves as a commodity” (Arrow 2014). This, in turn, in my opinion, makes it much less idealistically attractive, as I would say, in comparison with what was science of the middle of the last century, when quantum mechanics was establishing and its ideas (and, of course, the information) were simply floating “in the air.” In contrast to the product, which is sold once, information can be sold repeatedly (Arrow 2014).

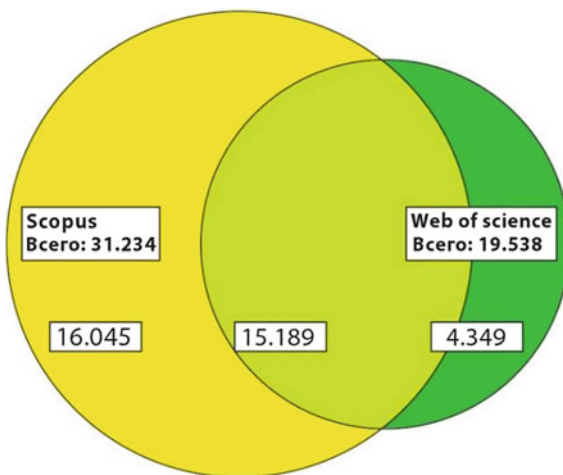
Number of scientific journals, which are indexed by three citation databases on the WEB of Science Thomson Reuters (ISI)—Science Citation Index, Social Science Citation Index and Arts and Humanities Citation Index—and Scopus (Elsevier). The last database consists of information on ca. 31.234 peer-reviewed scientific journals, while Web of Science of about 19,538 items. 15,189 among them are indexed by both databases. Speed of increase of number of scientific publications is also discussed in Larsen and Ins (2010) and Lotka (1926).

At present, the entire population of the Earth reaching for about seven billion creates trillions of gigabytes¹⁶ of data. Science creates most of them and creates in a format of information. Dimensions of the last information space, which could be called as “science capacity,” are shown in Fig. 17.3. The dimensions are impressive! Everything points on rapid science development. It is known that by the end of 2013, every 20 s new scientific article was published. And, do you remember of an Indian emperor Ashoka the Great who was reigning in India during III B.C. and who developed “The Secret Society of The Nine Unknown,” which was slightly reminding of modern scientific institute and which consisted of nine greatest Indian scientists and sages? Their task was to systematize all scientific knowledge and to present it in form of catalog, which was received from ancient sacred manuscripts as a result of observations and experiments. Each of “The Nine Unknown” wrote one volume, which was dedicated to one of the fields of science. Nine volumes! But if now we make a list of articles, which were published in the world we can see that in 1880 this number was 100 pages, in 1920–500, in 2013—11,000 that is about 1.5 million titles a year! According to the forecast of International Data Corporation (IDC), the amount of data developed and stored by the society will reach number of 40,000 Eb, which is 5200 Gb per capita by the year of 2020. 100 g of DNA would be enough to store all this information. This fact makes us truly believe in the future development of DNA-based computers. And, all these “tons” of information are only to satisfy a man’s trait to curiosity—recall the quotation from Aristotle’s “Metaphysics” that starts the present Theses—which will exist forever. However, as science is a main labor force, knowledge must be beneficial and should bring benefits. What are those criteria which are similar to those of assessing the quality of material goods, which can evaluate a quality of new knowledge? What do actually “quality of science” mean? Is it clear that the key criteria should be that which can assess the manner to treat a new knowledge as “beneficial”?

In society, there is a point of view that, in my opinion, does not logically infer at all from the “profitability” of knowledge. To specify, this viewpoint is that “benefit” directly correlates with citation of a given work in any its format: articles, reviews, or books containing this knowledge. The general point is that between three components—the article, perusal of it, from one side, and a new knowledge, from the other, resulted from this article—lays the process of reading and thinking, the process that is constantly changed and still absolutely unknown, as a “thing-in-itself.” Therefore, the following criteria of a “profit,” “marketability” of knowledge, and as a result, the criteria of appropriateness of a researcher lie at the heart, in scientometrics in particular:

¹⁶Bit is the main item of classical information in computational and digital communications. Epistemologically, this word comes from “bheid” meaning a “part” (Smirnov 2013). However, there is an opinion that this word came as a short form of “binary digit,” receiving only two logical values or states: either a “0” (logical value “false”) or “1” (logical value “true”).

Fig. 17.3 Reproduction of the picture “Jump into the Future.” Reproduced from Zatsman (2012). Source Zatsman (2012)



1. Citation Index (CI) that illustrates a level of publishing in peer-reviewed journals with high impact factor, and;
2. Hirsch Index h (see, e.g., Hirsch 2005; dos Santos Rubem and de Moura 2015; Nature Physics 2013; Pyykko 2006; Khantermirov 2014), which is one of the most widespread criteria of impact of the scientific papers.

The following thoughts on these criteria rise immediately and naturally. First of all, it sounds paradoxical: If a new knowledge is the knowledge about the outer world, then its “commodity” is determined by this outer world, though, strictly speaking, the mentioned “worlds” are alike. Second, another conflict is whether these two criteria are sufficient to measure the effectiveness and quality of science carried out by given researches, and to address its funding issues. True, these criteria are, generally speaking, inadequate in the scientometrics, as it is known from a number of collisions in the literature (see, e.g., Sigmund and Wallin 2009). Herewith, Évariste Galois could have h equal to 2; Einstein’s general index h ranged somewhere between 4 and 5, which is lower the average $h \sim 10\text{--}12$ among PhD students. In conclusion, the following question arises: Whether quotation is seen as that particular criterion to determining the scientific work and its “marketability”?

The answer to this question will be given in the next section. However, the following facet of this answer is worth mentioning right here. Recall the Preamble of these Theses. The reform of the RAS was held after the Russian Academy of Sciences in 2012 set up the “evaluation process” based on 130 criteria, including an involvement in international cooperation, effectiveness of the work, commercial potential of research and development, resource availability, future-orientation, etc.

(Dezhina 2014). It was concluded that 290 of 297 Institutes of the RAS are effective, which has been considered as inadequateness of these criteria and, in general, the inapplicability of the “digitization” of Science.

Effectiveness and Quality of Science: Expert Appraisal

I do believe that, despite the fact that the problem of “digitizing” efficiency, quality and value of scientific work (Dezhina 2014; *Russie.Nei.Visions* 2014) is as old as science itself, its correct formulation lies in somewhat different plane. In fact, Science is a human activity aimed at production and creation of new knowledge on the way from ignorance of this phenomenon(s) to the truth. Therefore, the above criteria should be based primarily on understanding of how close this research is to the truth? According to Kant, “the question is to find the universal and true criterion of the truth for all knowledge” (Part II.III. Kant 1770, 1994). Relevance of closeness to the truth of a scientific production is definitely a subjective matter. None can force the authors of production (work) to refer to those works in which, in their opinion, the truth is not yet reached. I admit that this criterion does not require a standard bibliographic search of the number of references. Speaking generally, the correlation between the number of references to this work and its proximity criterion of truth remains poorly understood. Is there such a correlation at all?

And the other way round—we may assert the hypothesis that the proximity of a given work to the truth can be measured by a group of researchers working in the same area. This constitutes a so-called expert evaluation which was established itself as the most reliable and valid approach to the analysis of scientific activity (Van Raan 2005; Derrick et al. 2011; Mryglod et al. 2013).

This might sound rather naïve, but let consider any scientific work as an object, an element of the external world that we aim to cognize. We perceptually contemplate the work, as well as a phenomenon, and develop its conceptual representation as well as about the phenomenon that it is modeling. Hence, the closer to the actual simulated phenomenon to the studied one, the closer this work to the truth. I assume my viewpoint is quite clear, even without mentioning Goethe: “It is a shame that the truth is so simple.” Well, let us move then further on.

The main message of this section is the following: Alexander von Humboldt Foundation or any of its sub-organisms, such as Humboldt Clubs, for example, represents a sufficient and extremely convenient expert panel for assessment of the scientific work on the basis of the criterion of its proximity to the truth.

Conclusions

Agree with me, or criticize me

[Agree or criticize me]

Ya. B. [Zeldovich]

All people, by its nature, seek to serve the Science

(rephrasing Aristotle)

Bow [remains] as TV producers say. That is, findings, conclusions, and thinking around them. Seriously, I will agree: Theses are somewhat subjective and a bit ragged. I always suspected that my attitude toward science is kind of emotional. Consequently, it is illogical and partly kanterian, as, already, probably, noted by part of readers.

Since the time of the reform at Russian Academy of Sciences (2012), I read much about the philosophy of Science, Science of Science, Scientometrics, trying to understand where is the reason for reforms of RAS, which is the oldest institution in Russia and was established by Peter the First in 1724. And now, partly rethinking, I put it all in my thesis.

I cannot judge the quality of these theses outlined above. Although I think they are, firstly, shed light on Science from a slightly different angle, which is, in fact, a point of view. And, secondly, they are not so bad, as do not satisfy so-called incomprehensibility principle, introduced by Fraser (2013): “The intensity of attention multiplied by its span cannot exceed some fixed value.” At least one of the Theses that are worth of attention is the following:

If we assume that those criteria for assessing the scientific production of the RAS, which were mentioned in Section “[Phenomena, Contemplation and \[Beyond\]](#)”, would be equivalent to criteria 1 and 2 of the Section “[Digitizing of Society and Science](#)”, the reform of the Russian Academy of Sciences is unjustified, as these criteria do not correspond to the key performance criteria of science, which prioritizes the Kant “Truth and only Truth” (with a Capital Letter). The Latter cannot be measured with the citation and Hirsch indexes!¹⁷

I regret that I couldn’t tell more. Firstly, it is “About perpendiculars.” Although in science person acts as an observer of the nature, of the Universe, cognizing its truth, he is its integral part, which is rather confused by nature itself. And, as Jean-Jacques Rousseau in his novel “*Émile*” (1762): “We do not know what our nature permits us to be.” Second: “About the parallels.” Theses, actually, began with a citation of Aristotelian “*Metaphysics*.” You know, when in the I century BC Greek scholar Andronicus of Rhodes republished manuscripts of Aristotle and “*Metaphysics*,” in particular, he joined in the last treatises of Aristotle, in which he addressed the issue of existence and knowledge, titled “*The fact that after physics*” (*ta meta ta physika*). That after (above) Physics—is metaphysics, is a method of

¹⁷It is more than enough to think of *h*-index of Einstein and his work on the EPR paradox (Einstein et al. 1935).

philosophical inquiry, is not based on sensible intuition, and speculation on intellectual contemplation. In this regard, I remembered about my visit to Bonn in 2012, where I was among awarded with the research grant of the Alexander von Humboldt Foundation within the Forum in the “The New Desire for Metaphysics” (Bonn, October 24–28, 2012). I am sure, for “Workers of intellectual labor” as Landau, such conferences are vital. At this—I would like to put an end point.

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Chapter 18

Educating Journalists: Towards Philosophical Sophistication



Eleonora Shestakova

Journalists hold key positions in public life and in guiding the social processes in any society. I claim that during the last quarter of the twentieth-century processes of profanation in the social significance of the role and function of mass media and of the journalists' work have taken place. That has led to serious consequences—starting with the education of journalists in institutions of higher education institutions as well as in everyday life.

The Situation with Journalism in Contemporary Ukraine

There has been an almost total loss of confidence in the institution of social communication and ideology in Ukraine. The revival of competence, professional responsibility of mass media in modern Ukraine, based on the ethical and philosophical basis, is a priority for the country that tries to stay united, sovereign and independent not in name only, but in intention and ability for political nation creation.

All the countries that belong to the “spiritual path of the West” (Habermas 2008, p. 44), during the formation of civil society basics and principles have experienced difficulties in the formation, development and support of mass media systems. Providing advanced social communication among citizens, between citizens and political, governance institutions, and other social institutions is a highly complex social task. Journalism plays a key role in that task.

Basic restructuring of the higher education of Ukraine—as the country is trying to become a respected part of European scientific, educational and cultural environment—needs to start with the areas of social sciences and the humanities. In

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these fields, experts are directly responsible for the formation, maintenance and continuous development of the prevailing cultural mindset. In Ovsianiko-Kulikovskiy's apt words, "social health" (Ovsianiko-Kulikovskiy 1989, p. 130) is here at stake. It is the central domains of social and humanities are the arena where specialists consistently work towards forming and maintaining public opinions and mindsets. Society's mass consciousness, in the end, results from the modern mass media worldviews and leads to feelings of social self-awareness. Such awareness emerges in the area of social communication, including the spheres of journalism, advertising, PR, editorial business and proof-reading—all of them incorporated into the space of mass media. Long-term neglect of this area in Ukraine, its denigration to the margins of its scientific and educational process naturally led to the formation of frivolous, sometimes openly arrogant attitude to the selection, training and education of professionals. It has been positioned into a secondary role in comparison with those involved in fundamental and natural sciences, which can lead to tragic outcomes. While during peacetime, professional knowledge and experience in social and humanitarian areas could be considered to be impractical and socially insignificant skills used to make abstract philosophical points, in crises' situations that are different. In times of calamities crises (global disasters, revolutions, wars), the practical value of professional knowledge of journalists acquires a new role. They need to counter media worldview distortions due to non-professionals who are responsible for it. At times of conflicts, there is a breakdown and destruction of communication between mass media specialists and their recipients, transforming the latter from partners in social dialogues into objects of various manipulations, become more evident in a time of social crises.

Currently, the most obvious consequences of negligence of the situation with social communication specialization—especially journalism—are the following:

- (1) There exists a systematic and artificially created by mass media confrontation between the West and the East;
- (2) This takes place in both the social-political sphere and in everyday life;
- (3) There is inability of the majority of local specialists of mass communication to counter the acts of informational aggression, operations and impacts of foreign mass communication experts. In other terms—is necessary, above all, to protect their recipients, whom they are responsible for, from destructive effects of propaganda;
- (4) This is destruction of the regional journalism as professional, qualified, capable of independent creation of analytical mass media material, that simultaneously guided by cultural heritage and regional interests, history, mental peculiarities.

It is obvious, that range of these problems is wider, and its system definition and grounding should be done. Though, the key directions for higher education on social communication are evident. One of them involves the development of philosophical and social knowledge as a defining basis for an advanced journalist training.

Education of Journalists

The goal of the educational efforts is to prove the importance of the professional strong worldview training of the social communication specialists; it outlines the following tasks:

- (1) to show the fundamental role of philosophical reflection in understanding and interpretation of mass media of the modern world, without which there cannot exist intelligent and professional formation of journalists' social self-awareness and cultural mindsets;
- (2) to define and highlight the importance of journalism as well as motivate professionals to update any material such as ever-changing news feeds, analytical articles, social, political, and entertaining shows, leisure projects, and via philosophical, social knowledge as defining for the mindset of their recipients, and modern development trends;
- (3) to outline essential areas to reform the training of social communication professionals, which are ready to be implemented in practice quite successfully. In other words, we need to simultaneously form a new core of lecturers for social communication and change current attitudes in practical journalism, refocusing them on such values as patriotism, goodwill, professionalism and personal responsibility for their material and the worldview behind it.

Without reaching these goals, Ukraine would not be able to restore confidence in its mass media, and journalism. Journalism in Ukraine hundred years ago—at the turn of the nineteenth to twentieth centuries—was a well established, national state civil institution. Our current policy of ignoring the needs for expert education in journalism would cause loss of real connection by social institutions with citizens in Ukraine. They quickly find themselves controlled, dependent on intellectual and moral terms of hostile propaganda. This is especially evident in the context of global processes. As long as world-known and respected public intellectuals (e.g. Habermas 2012) consistently note the importance of the restoration and maintenance of professional mass media as the basis of social life, Ukraine should make this task a priority.

Habermas (2012) emphasized the role of mass media in the process of mutual responsibility of mass media, journalists, society, state and ordinary person:

Public communication shows power when promotes and directs citizens to form public opinion and expression while forcing the political system to transparency and adaptiveness. Without press pulses that shape public opinion, that fairly and thoroughly comment, the public sphere can no longer provide this energy. When it comes to gas, electricity or water, the State is obliged to provide citizens. But perhaps it should not be just this bound when it comes to those kinds of “energy” with inflow rise to violations that cause harm to the democratic state? (Habermas 2012, pp. 109–110)

Apparently, that the question mark at the end of the Habermas' quote here is rhetorical, it indicates the scope of mass media energy in the modern world. However, the existence of professional mass media is impossible without the

trained professionals, who could not be trained neglecting social and philosophical knowledge.

Relationship of the Mass Media and the Philosophical and Social Spheres of Knowledge

Regretfully, over the past quarter-century, there has strengthened, and not without the influence of the American tradition, limited and one-sided view on journalism as a social and cultural activity, focused specifically on unconcerned disclosure of current facts, events and realities. Herewith, even analytical part of journalism, which is realized at the margins of mass media practice, is lost. It is important as the principle of truth—that is simultaneously the foundation, core, purpose, and the final result of journalist’s material.

The fact is central in journalism. It is not only significant by its founding part of mass media but also is an over self-sufficient in it; that step by step and inevitably leads mass media to superficial and “flat” (Bakhtin) understanding and interpretation of the events and real-world effects. In its turn, it develops, if not distorted, then diluted, “flat” (Bakhtin) vision and interpretation of modern social–cultural processes and states, and most importantly, it urges to simplification, a twist of events which become the subject of journalists’ materials. Specific and usually unsubstantiated fear of modern journalism (for both practice and theory) in the face of analytics, with its cultural social and social–political reflection and expression of I-journalist reflect adversely on the quality of journalistic materials and state of journalism in general. As a consequence, it affects the quality of models, principles, patterns, types and methods of social communication, created by journalism, and cultural mindsets in general.

Relevance of Philosophy

Unfortunately during the twentieth century and even at the beginning of the second decade of the twenty-first century, philosophers were more interested in journalism and mass media than professional journalists were interested in philosophy. As a crude example, the works of Spanish philosopher José Ortega y Gasset could be mentioned. In his earlier essays, starting from “Aesthetics in the tram” (1916) and «Musicalia» (1921) journalist, reporter, theatre and literature critics played leading parts. They found out in themselves, step by step, the qualities of essential symbolic characters of modern European culture. It was set in one of the last and program works of Ortega y Gasset “The Dehumanization of Art” (1950). According to the author’s view, an event (from human death to artwork and the life of the culture itself) is created, accepted and estimated by four symbolic characters—close

person, relative (wife), doctor, artist, newsman (journalist)—justified by nature itself and the logic of European culture (see Shestakova 2007). The second half of the twentieth century would pass under the sign of active, conscious turn of philosophy towards an understanding of mass media as a phenomenon of modern culture. This is because “mass media ratio” inevitably grows in entire culture (Ryklin 2002, p. 11). However, journalism itself, especially its practical part, created by graduates, is left aside of professional attention, and importantly, work principles, methods of studies. This is due to the fact that journalists’ knowing of the famous names and theories of philosophers’—experts in mass communication are no longer used in mass media practice. Such cognitive dissonance is no good for both—theory and practice—of journalism. Moreover, it encourages simplification of social self-awareness of Ukrainian society, oriented on the meanings, creating mass media worldview. Philosophical and social comprehension of current problems of mass media, status and functions of journalism and journalist should become the methodology of the journalism theory and, importantly, for practice. It is crucial for mass communication that “forms reflected public opinion”, reasonably proved by Habermas (2012). And, first of all, it happens through “messages and comments of the leading newspapers and journals, distributed across the country, that serve as examples and stimuli for other media” (Habermas 2012, pp. 131, 142). It could be the norm of social and political and everyday life in Ukraine. Training of journalism professionals beyond social communication should be performed in the way to build a sound basis for worldview and professional methodological activities that help to gain enduring, national and state responsible meanings. This is only possible if journalist master not only the methodology of “flat”, in the context of goals, problems, meanings, ideas, functions, realization of media text—obvious facts of reality, but above all, a responsible creation of informative, meaningful system view and coverage of real-life events. Such approach becomes more and more popular at the time of active evolution of electronic mass media and domination of visual component of culture. It was clearly proved by Habermas (2008) in his world-known example:

...terrorism after September 11, has acquired a new quality... [...] What was new was the symbolic force of the targets struck. [...] The presence of cameras and the media was also new, transforming the local event simultaneously into a global one and the whole world population into a benumbed witness. Perhaps September 11 could be called the first historical world event in the strictest sense: the impact, the explosion, the slow collapse — everything that was not Hollywood anymore but, rather, a grim reality, literally took place in front of the “universal eyewitness” of a global public. One of my colleagues watched from the rooftop terrace of his home on Duane street, very close to the World Trade Center, the explosion of the second plane that crashed into the upper floors of the building. Only God knows what my friend and colleague experienced, watching the second aircraft explode into the top floors of the World Trade Center only a few blocks away from the roof of his house on Duane Street. No doubt it was something entirely different from what I experienced in Germany in front of the television, though we saw the same thing”. (Habermas 2008, pp. 12–13)

However, to feel that way, to see, understand and imagine the act of terrorism on September 11, one should not only be Habermas but have trained experience of

interpretation, use of ideas, methods, from the point of philosophical and social knowledge. Otherwise, general professional training of modern journalist could stick on the level of reporter—catcher of the obvious facts and events, and interviewer capable of literal decode and printing the text of an interview with anyone: random person, a “star” or famous politician. And again, we see the effect of cognitive dissonance at training modern professionals in the sphere of social communication.

On the one hand, we could state that mass media, that has become, in the philosophical and social sphere, serious, successive and integral part of thinking as in the works of Mehrab Mamardashvili, where solid philosophical reflection, is realized in two main directions. Firstly, the way was “found out” and clearly developed by Ortega y Gasset, resulting from his reflections on the nature of modern culture, everyday life, aesthetics, sociology of art. This approach is realized as a direct appeal to philosophical and social reflection on journalism and its representatives (reporter, critic, newsman, mass media analytic, journalistic genres, etc.), and value ways of journalistic (wider—mass media) understanding and articulation of reality. Secondly, due to social and cultural reasons, the direction which has been actively developing since the end of nineteenth—beginning twentieth centuries (contributions by G. Le Bon, S. Freud, F. W. Nietzsche, J. Ortega y Gasset, E. Canetti, H. G. Blumer, N. Berdyaev) is devoted to scrupulous and persistent understanding of problematic semantic field and basic inner fundamentals of journalism. It lies in indirect reference to mass media, through understanding and development of such significant concepts as mass, crowd, social impact, mass psychology, collective behaviour, average man or layman, common desires and emotions, everyday life, modern times, social myths, propaganda, mass in world religions, society, public opinion, social movements, national identity, mass leaders, subjects and objects of mass, factors of mass opinions and beliefs, personality and mass, public sphere, reality, etc. These approaches are somehow presented in distinct parts in different programs for different courses and disciplines, studied by Ukrainian students.

Though, the results if these philosophical and social reflections, that became the basis for the knowledge about world and culture, principles of intellectual and moral, responsible, anthropologic, by definition, interpretation of reality, rarely happen to be the subject of journalism, wider—both theoretical and practical mass media. An exception is a small group of interviews that Western journalists do with the intellectuals, playing leading social and ideological role in the European world, as well as tele- and radio broadcasts, led by contemporary public intellectuals. However, it is likely inherent to highbrow journalism, especially in the former Soviet Union, that is closer to lecture discussion for a small select audience of intellectuals than to mass media, strong and naturally associated with real processes of social communication.

It would seem that it is quite logical and natural, considering the specificity of journalists’ professional activities, focused on the relevance of current modernity, factuality, objectivity and increased the importance of important sociopolitical, economic topics that need to be adapted and introduced to different societal groups.

Thus, the majority of studies on journalism audience is qualitatively changing (or rather, regressing) its structure, needs, orientations and intellectual and moral interests and characteristics that determine and requests, orientations, psycho-emotional, compositional and semantic content of journalistic material and transformation of the genre system, dominating towards lower “extreme forms of mechanical action” to which, for example, “romance, feuilleton, pornographic novel” belong (Ortega y Gasset 1991, p. 175). Current recipient, as a rule, at most, —an ordinary man, with a particular “spiritual order”, described by Ortega y Gasset in his essay «Musicalia» as «vulgar, philistine emotions of good bourgeois» (Ortega y Gasset 1991, p. 167). If in twentieth century according to Spanish philosopher social circle of a common man consisted of “... friendly businessman, and virtuous professor, and ingenuous officer and lady de comptoir, who recognize themselves, their preferences and feel gratitude” (Ortega y Gasset 1991, p. 167), listening to Bach and Debussy; but now everything has changed.

We can hardly accept the general thesis that the modern concept “average consumer”, which presupposes certain quality mechanisms and influence over it, coincides with the century-old concept of “spiritual state” and the idea of an ordinary man. Tastes, focuses, intellectual wants have crucially changed, but it happened due to mass media, which in its turn has reoriented on the commercial function of crucial information distribution and entertainment with clear and popular among masses. But in such a state of society and its mass media worldview, there is no place for political and social elites, and for the possibility of real communication between them and their voters—citizens of a democratic, culturally advanced country. By Habermas (2012) opinion, “relevant issues” and “communicative drill” should be formed and developed between elites, “involved in public communication” and citizens (Habermas 2012, p. 135). Without this principle existence of actually alive, public opinion is “the product of the public sphere” (Habermas 2012, p. 135). But, in its turn, it is impossible without education and training of modern journalists and those who actively creates a public sphere and acts as a voice and representative both for social elites and ordinary citizens.

Journalism Today

Ukrainian journalism today is mainly presentation of facts, entertainment and leisure. It is the kind of journalism that requires more skills of a craftsman than of analyst, ideologist, capable of seeing and revealing the principles and mechanisms of social life, to justify hidden, largely due to the power of cultural memory, processes and current relationships. There is no place for problems of philosophical and social knowledge that are deliberately and consistently opposed to the utilitarian and pragmatic view on journalism. Problems of philosophical and social sphere that would appeal to analytic increased reflection, strong personality, intellectual and moral responsibility are no longer present in the media. This leads to deterioration of social well-being, depletion, simplification of current cultural

mindsets, needs and preferences of society in general. Ukrainian elites who are involved in public communication work in distorted mass media to create designs and patterns of social communication, as far as they have no adequate voice for current social and political, and cultural world, and their electorate has no, relevant to modern needs, social self-awareness. As a consequence, there could not happen “communicative drill”, which would give benefits in the social structure. Therefore, the role of high-quality, professional journalism in the modern world needs to grow.

Journalists’ professional activity deals with their particular responsibility for society, modernity, everyday life and the nearest future created by them, as well as for dominant cultural–social moods and the general worldview outline of the epoch. And, if the statement may seem trivial, cardinal transformations of the fundamental and seemingly stable cultural grounds including reality, time, space and mass media active role reveal the process of overcoming the stereotype-based character of the ideas. In this context, it is necessary to mention the famous statement by Bourdieu (2002) on the reality effect possible for journalists to create. In particular, it is about “the strikes in the lyceums in 1986. From the example, we derive the way when journalists while being naïve and sincere and involved in hot news search, loaded with superstitions and categorical framework, evaluations and pre-supposed expectations can cause the reality effect and change the reality; the effect has never been intended, but it still may have the catastrophic consequences. Journalists had in their minds the reflection of the 1968 year events, and they were eager not to let “new 68th” pass them”. And in reality, they had to deal with the teenagers having nothing to say and imminently far from the political life. Then, they started looking for the leaders (evidently, among the most politically active of them), latter being regarded seriously and, as a result, being made to consider their words seriously. And gradually television, an idea and instrument of reality reflection, turns into the reality creating an instrument. We still get closer to space with the social life being described and punished by television (Bourdieu 2002, p. 35). At the beginning of the twenty-first century, the journalistic space power described by Bourdieu (2002) at the end of the twentieth century became more intensive and revealed the results of the interference effect, touching upon and changing not only social but a natural–cultural sphere as well. So, a journalist cannot legally fail to know, understand and reflect professionally ontological, and global social–political transformations of the cultural world being actively and personally encountered by the journalist due to his/her status and functions. World perception categories, necessary for professional journalistic activity, should be cherished and developed during the professional training for journalism and social communication in general. Naturally, a higher school tutor is mostly responsible for the categories, perceptions and superstitions of a journalist.

Conclusions and Methodological Recommendations

In a sense, a philosophical social sphere of knowledge becomes the grounds able of supplying a journalist and journalism with ideological (in the literal meaning) lines and axiological orientations, of forming their categories of reality perception, as well as means, scope, context, worldview and world events reflection. It is just one perspective. And another one is in enriching, widening and qualitative transformations of journalism theoretical and methodological basis, as well as that of mass media. Kucherova (2000) has formulated this as following: “Nowadays to say of necessity in journalists’ problems philosophical analysis and study means repeating the statements pointed out by Gurevich about 20 years ago; though some of them should be considered as the investigations of the kind are quite rare in the philosophy of the country... There is explained the necessity of propaganda worldview basics studies (philosophical notions of a personality, consciousness, communication—the direct link between philosophical reflection and propaganda methods), mass ideological processes revealing the inner aspects of mass impressions, hopes, moods and intentions” (Kucherova 2000, p. 4). In the Russian academic space, the ideas by Kucherova were accepted and applied. In particular, her work became studied within journalism courses and subjects in many higher educational institutions of the country. And, it is the obligatory reference for doctoral studies, starting with the Lomonosov Moscow State University (see for example MSU 2014; MarSU 2013; Moscow State University of Culture and Arts 2012; TSYU 2011; MGIMO 2012; Altai State University 2012). In the context, Ukraine is left behind. Journalism students must master the philosophical reflection priority though the latter, broaden their worldview and develop a methodological basis for everyday professional activity.

But for the holistic philosophical social sphere of knowledge to become essential and daily-based activity of a practical journalist, he/she should have been taught to understand the language of the area, the way of perception and articulation of the world, to adapt the knowledge to mass media sphere. To say more, the philosophical social sphere for journalists is to take into account their professional specifics and unique features that cannot be reduced to just philosophy, sociology, philology, culture studies. This querying, naturally, involves actualization of the problem of journalism teacher professional training knowledgeable in all the courses on history and theory of the subject and able of practical applying of the philosophical–social knowledge and teaching a future journalist realization of the knowledge aimed at the social–creative target. Evidently, in this context, we do not mean the made-for-purpose philosophy course. And we do not mean incorporating philosophical–social texts and ideas into the journalism courses to serve as an illustrative material or a review of the related sciences and ideas. Though it is necessary to justice, alas, to the Russian and not Ukrainian textbook for the students studying journalism by Kokhanova and Kalmykova (Kokhanova and Kalmykov 2009) in “Journalism theory basics”; the textbook successfully regards journalism problems from the philosophical social point of view.

How to Solve the Problem?

The problem lies in the principal qualitative modification of all the educational journalism system, with the further shift from the dominant news reporting and entertaining formats based on the functional–pragmatic approach to the area of the intellectual journalism. Both philosophical–social knowledge and the way of world articulation should be understood not as something outer, marginal, important though secondary, but as a substantial component of journalism itself. In other words, a modern Ukrainian student of journalism should be taught to be able of interviewing J. Habermas or L. Hudzar. It is vital for a journalist to be able to publish an analytical article, political, cultural–social, national problems review within the state, without mere events and facts description, counteracting points of view and comments of some modern politicians, historians and specialists in culture studies. Furthermore, it is also important for a journalist to be able to find out and professionally explain the problems mentioned above by actualizing them within the whole scope and all the contradictions of culture and society life. Secondly, the question is in more distinct and strict approach to choosing and formulating the doctoral these topics within the speciality, stressing philosophical–social sphere relevance. One of the examples of the kind is the theses by Kucherova (2000) in which through standard features and contradictions there are interrelated the philosophical–social and journalistic, mass media world knowledge, axiological ways for regarding, understanding and articulation of the world. But for training the appropriate journalism teacher, it is necessary, firstly, starting with the first year of studies, not only to aim students at practical skills and knowledge priority but to show value and relevance of the philosophical–social sphere for their further practice. Secondly, to show that the origins, depth, scale, context and consequences of any social and cultural event and fact may be seen and described only through strong professional, intellectual and moral worldview of the journalist. Thirdly, starting from the second year, the system of specialized courses on intellectual journalism and its methods of teaching (programs for the master of journalism and social communication) should be added. For example, it may be the (special) course “Reading specifics of philosophical and social text” (the name in a slightly modified form borrowed from special course of V. Bibihin, which he read at the Philosophical Faculty of Lomonosov Moscow State University in 1991), “Philosophical and social interview as a value part of modern journalism”, “Problematics and topics of Habermas’s interviews”, “Genre, stylistic and thematic originality of TV-program “Lectures on Culture” by Yu. Lotman”, “Methodology “School of Annals” and its role in the modern theory and practice of mass media”, “Political and national as a subject of contemporary philosophical and social knowledge”, “Genre impact of mass communication text”, “Everyday life as a subject of social and communicative disciplines”, “Philosophy and social understanding of the concept of “modernity”, “Cultural Heroes of modern worldview”, “Leading social myths and stereotypes”, “The image of the journalist in the philosophical essays: the problem of students journalistic identity”, “Reality show

as a representative of non-classic culture” and so on. Fourthly, there should be actively and purposefully developed ideas and methods proposed by Kucherova (2000). Each chapter of her monograph may be the basis of a special course, not to mention the fact that the philosophical approach to the field of knowledge developed by her, productive and promising, is still untapped by Ukrainian professionals. Fifthly, there should be organized an interdisciplinary special course in cooperation with philosophical, and sociological faculties (departments) for masters of journalism, that are trained for teaching. Sixthly, it is necessary to maintain ongoing cathedral scientific seminars, which topics and issues are related to philosophical and social knowledge.

Consequently, journalism education, for both theorists and practitioners, for those, planning to be engaged in teaching activities and working in mass media, is a formation of specialist, armed at the fundamental basis—consciously mastered culture of philosophical and social knowledge as fundament—thorough ideological foundations. First of all, the very fundament that provides a reliable and stable picture of irrelative values and senses, orientations, models of social communication, methods, mechanisms and their means and development trends. Moreover, philosophical and social knowledge is the basis for upbringing journalists’ self-awareness in students, and background for purposeful, systematic education of journalists who are intellectually capable and qualified for the worldviews which they create.

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Chapter 19

Manufacturing the Industrial Citizen



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No one in academia could be unaware of the corporate and neoliberal trends in higher education; they bleed through our daily interactions as teachers, administrators, scholars, and students. And as these trends become increasingly ubiquitous, we are sometimes their unwilling executors. The myriad books, articles, blogs, and opinion pieces on the problematics of such trends attest to the sense of painful dilemma that these distribute throughout higher education. We feel collectively caught within the distorting logics of efficiency, productivity, accountability, etc.; logics that promise “best practices” but seem to produce only uncritical, conformist, and bureaucratic institutional cultures.

Elsewhere (Ostenson et al. 2017), we have attempted to make sense of these trends in terms of basic industrial work practices and that analysis forms the background for the more personal exposition of these dilemmas that we offer here. In what follows, we will briefly discuss these industrial practices, and the sustainable alternatives that we have advocated, but our focus will then turn primarily to our first-person experiences of industrializing forces in higher education. As we hope will become clear, these experiential accounts help highlight our lived dilemmas in ways that detached analyses fail to capture.

In our account, we plot these dilemmas within the two poles of industrialism and sustainability, but it is clear that the pull toward industrialism is becoming

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increasingly dominant. We are hoping that, in illuminating our dilemmas, we present more clearly the ubiquity and inevitability of these industrial forces, and thus the limitations placed upon those who would resist them. But, while we make no attempts to sanitize the ambiguity, uncertainty, and ambivalence of our thoughts and experiences, our account is also intended to open a window on those freedoms that still exist in higher education. In other words, in seeing more clearly our limitations, we will simultaneously see the small opportunities we have within an increasingly industrialized system to lean toward more sustainable practices. It is not our contention that we can eliminate industrial forces by enforcing sweeping policy changes or inciting some sort of revolution; the dilemmatic character of our experiences suggests that industrialized practices will, for now at least, be unavoidable. But no matter how inescapable industrial forces may seem, our concerns and our choices can still move us toward something more emotionally, interpersonally, and institutionally sustainable, in no small part because of their deep roots in our local university and geographic communities.

Industrial Work Practices in the Contemporary Academy

While the term “industrial” is not new in discussions of higher education (e.g., Kezar 2004; Gumpert 2001), its use has primarily signified the deployment of “corporate” models. Our use of the concept, however, is much narrower and more technical, referring to a set of labor practices characteristic of the industrial revolution (Ostenson et al. 2017). Specifically, these practices include a movement “from independent, local artisans who create a complete product to the highly specialized, standardized, and distributed forms of mass production” (p. 512); a movement from the independent artisan or craftsman, responsible for the whole product, to the employee, “responsible only for a specific task or a certain number of hours” (p. 512); a movement from local communities with a strong sense of place to “placeless labor collectives” (p. 512); and a movement from an awareness and acknowledgment of “local limits” to striving for “limitless growth” (p. 513). Elsewhere, we elaborate how these practices play out in academia, but we can only briefly summarize that analysis here.

We argue, first, that a “production” philosophy is enacted in the “academic monocultures” of standardization and assessment. This standardization can be seen in academic drift (see Morphew 2009; Morphew and Huisman 2002), or “the tendency of colleges and universities to ape the programmatic offerings of the most prestigious” (Morphew 2009, p. 246); in an increasingly cosmopolitan, discipline-focused (as opposed to community or university focused) faculty (see Dey et al. 1997; Gouldner 1957); and in an increasing emphasis on assessment (see Ginsberg 2011).

Second, we argue that the shift toward an “employee” model is enacted in concerted attacks on faculty autonomy. These attacks have often been quite explicit (see Giroux 1999), including the recent suggestion by Wisconsin Governor Scott

Walker to abolish tenure at Wisconsin schools (Hefling 2015), or a similar proposal by the system administration for the University of Tennessee to introduce “de-tenuring” as a cost-cutting measure (Flaherty 2015).¹ More subtle inroads into faculty autonomy have taken the form of increasing appointment of contingent faculty, administrative growth, and centralization in the face of faculty constriction (see Kezar 2004) and, of course, the general and ubiquitous defunding of higher education (see Clawson 2009).

Third, we argue that the shift from community to collective is enacted in a “continual cultural and digital diaspora” (Ostenson et al. 2017, p. 513). We refer both to the well-known growth in online education (see Hill 2012) as well as to the more complex cultural shifts that have pushed colleges and universities away from local communities with local missions to large standardized bureaucracies (see Levinson 1989). In these shifts, students, faculty, and administrators are becoming more focused on national and international professional affiliations and less on community ones (see Morphew 2000; Milem et al. 2000).

Finally, we argue that the culture of limitless growth is enacted in an obsessive “focus on research productivity, institutional growth, and profit” (Ostenson et al. 2017, p. 513). That growth focus can be seen in administrative bloat (see Ginsberg 2011), increasing tuition costs (see The College Board 2014; Delta Cost Project 2015), growing student debt (see Gale et al. 2014), the rapid increase in contingent faculty (see The Coalition on the Academic Workforce 2012), and in the growing focus on rapid, high-volume publication (see Morphew 2000) and on grant-funded research (see Benneworth and Jongbloed 2010).

Considering all of these trends together, our general conclusion is that industrial practices in higher education shatter:

those natural and human limits necessary to our long-term flourishing (i.e., sustainability). What industrial practices dissolve are both the organic developmental processes that ensure balance and longevity and the communal organizational structures that are the foundation of human responsibility and moral decision making. (Ostenson et al. 2017, p. 520)

In contrast, we argue for a more “sustainable higher education” that “seeks to nourish, protect, and restore these limits” (p. 520). This sustainable higher education would entail a commitment to local missions and local limits, to slow, careful, locally driven growth (i.e., the organic growth of becoming our best selves, rather than the industrial growth of becoming our biggest selves). A sustainable higher education would also entail communal institutional models, involving lateral forms of organization, and small administrative units “with very little need to bureaucratize (in the form of ‘assessment’) or distribute (in the form of hierarchy) moral responsibility” (p. 521). With its emphasis on slow, locally driven growth, our vision of sustainable higher education resists the sweeping, structural changes often proposed to combat industrializing forces. Structural and revolutionary changes are

¹After receiving a great deal of immediate criticism, the University of Tennessee administration later claimed the term “detenure” was used erroneously and modified the language to read “post-tenure review,” though this pivot was met with much skepticism (see Baker 2015).

typically massive in scope and indiscriminate in their local effects—characteristics more appropriate to an industrial, rather than to a sustainable, approach to change. Thus, in the broadest sense, our vision for sustainable academic institutions is about developing from the grassroots (i.e., slowly, carefully, locally) traditions and structures that demonstrate a commitment to interpersonal responsibility and relational care among real individuals and communities.

Manufacturing the Industrial Citizen

Our previous critique, summarized above, centered on industrial practices and structures, but here we turn to a more intimate account of where we, speaking as scholars in the academy, are implicated in these practices; where we participate in them, perhaps unwittingly or under protest (or perhaps not). We write here also about how these practices feel; about the ambivalence of working for organic and caring scholarly communities within an industrialized system that turns that work toward de-personalized, standardized, distributed forms of production. We write about the impossible choices and unwilling compromises that result from these conflicts and the sense of inevitable failure that sometimes results. Our account, then, resides not within problems and solutions, but within dilemmas, three of which we discuss in detail here, namely the impossible choices between an efficient neoliberal education and an impractically critical one; between standardized “best practices” and the genuinely good practices that arise from our intellectual and communal “grassroots”; and between scholarly productivity and meaningful scholarship. These dilemmas do not resolve because we carry them in our histories and bodies; but we also carry resistance to them and so, in what follows, we also raise our improbable hopes.

Efficient or Critical

Though higher education moves toward increasingly industrialized forms of labor, we still wish to empower our students with the knowledge and skills to be critical of industrial philosophies. Unfortunately, even assuming our success, difficult questions remain. For example, if we want to prepare our students for the “real world” of efficiency, productivity, compliance, and conformity, how exactly should we teach them? If we teach them to be critical of the very things that define “success” in the real world, are we leaving them unprepared for life and work after the university? Do we instead teach them to internalize and repeat static and independent information canons, to master various forms of technology and bureaucracy (e.g., SPSS, scaled self-reports, grant proposals, etc.), to master instrumental skills (e.g., technical writing, PowerPoint presentations, careerism, self-promotion, etc.) that will allow them to take their appointed places within the corporate hierarchy? Or can we

trust that, given the freedom and guidance to think critically, our students will find ways to live meaningfully without having to depend so heavily on industrial ways of being? If we teach our students to question, to resist, to find value outside industrial and neoliberal systems, are we making things harder for them? Is it naked paternalism and hubris to think that we are doing something more than transmitting instrumental and technical mastery in economically useful domains; to think that we might be sharing and shaping ways of living, knowing, judging, valuing, and expressing?

These questions highlight the tension that arises when we who desire a more sustainable higher education teach within our current industrialized system. This tension is particularly evident in one course that each of the three of us teaches: psychological research methods. In the research methods course, we feel a responsibility to prepare students for the concepts and practices that they will be required to employ in graduate school and in professional empirical research. Unfortunately, in teaching this course, we worry that we are also encouraging our students to perpetuate industrial discourses and practices.

For example, we know that methods texts and other institutional gatekeepers in our discipline would have us teach students to treat facts as independent of values, culture, and history (Clegg 2016); to paint science as a value neutral, inherently progressive, self-correcting machine of discovery and to ignore its complicity in colonialism, industrialism, eugenics, etc. We are stuck, in other words, with a disciplinary language that explicitly sets out to train our students in the very forces that have shaped our sterile, standardized academic monoculture. Not surprisingly, we each find ourselves with a desire for a more critical approach, one that is more contextual and encourages more care toward our subject. Indeed, even our students feel the tensions we articulate here, many expressing resentment toward taking this course because the highly technical and detached character of the class appears to them to be at odds with the psychology that they hoped to find—one primarily concerned with encountering and confronting human suffering and meaning (cf. Miller 2004).

Nevertheless, the standardized and “efficient” research methods are those that students will be expected to know and do in graduate school; this is the sort of discipline they will be expected to publish in. So, we, as their teachers, are left with an irresolvable dilemma. If we teach them a philosophically sophisticated, critical, literate, intellectually honest research methods course, they will be simultaneously ignorant of the accepted disciplinary forms and burdened with a perspective on research at odds with their practical realities as graduate students and professionals.

Not surprisingly, this all can be a little numbing and wearying—we know ourselves to be socializing students into something we cannot support, intellectually or ethically. We are part of a system and feel compelled to fulfill our appointed functions, but we are also moral agents and so feel compelled to resist; we want to help our students do well in graduate school but we also want to teach them in an intellectually honest way. We want to support their aspirations in the discipline but we also want to encourage them to challenge the inconsistencies and limitations of that discipline; the ways that it is complicit in the industrialization,

de-humanization, and institutionalization of our world. And it always seems like we cannot fulfill these conflicting duties; we must do violence to some of them; fail in some of them; and there is no way to protect either ourselves or our students from them. Thus, we not only fail to point our students toward a more critical ideal, but we likewise fail ourselves as critical scholars when we shirk this responsibility in favor of socializing students to the discipline that they have chosen.

Yet, however, pessimistic our situation may appear, we believe that it is within this complex tension that we have our greatest hope of confronting these dilemmas with some degree of integrity. This is because the conflict we feel here is between two moral and ethical demands upon us, each meriting our attention and efforts. On the one hand, we feel the call to be intellectually honest, to bring critique where it is called for in our teaching and scholarship, and to offer resistance to trends and forces in psychology, and academia more broadly, that are dehumanizing and unsustainable. On the other hand, we feel a duty to our students to prepare them to survive in the discipline as they will encounter it rather than as we wish it would be. We cannot ignore or set aside either demand and the compromises we make may be gut-wrenching at times. But we would argue that these compromises are ultimately more sustainable inasmuch as they allow us to attend to the many goods that have claim upon us, rather than allowing idealism or surrender to serve one good at the expense of the many.

In confronting and suffering through this tension in our research methods courses, we have tried to lean toward a more intellectually rigorous and honest approach. For example, we have included readings and discussions around the current debates and dilemmas occupying the methodological mainstream, allowing for critical reflection while still serving some professionalizing functions (e.g., the replication crisis; see Brandt et al. 2014; Koole and Lakens 2012; Open Science Collaboration 2015). We have incorporated critical historical analyses of psychological science, pointing to race, gender, and class inequalities inscribed within particular scientific methods and worldviews. And in some cases, we have personally mentored students *outside* the classroom whose curiosity is drawn by our critiques of the psychological sciences, allowing us small but essential opportunities to provide more extensive and nuanced arguments. In these small ways, we push our students toward the critical reflection we value, while also socializing them to the discipline.

These are, as we have said, clearly imperfect solutions and represent very incremental movements toward sustainable knowledge practices. But given the scope and the power of the industrial system, it feels the most caring way to instruct our students: to prepare them for the world they will inevitably be a part of in a way that is both critical and aspirational. We hold out hope that these efforts and others like them can push us, from the grassroots, toward a more critically conscious and theoretically sophisticated methodological culture. And this is generally the model for resistance and change that we embrace; not hierarchically enforced “best” practices, but locally grown good practices, pooled laterally across a grassroots network of professionals.

Best Practices or Good Ones

This approach to change highlights a second dilemma we face in an increasingly industrialized higher education, namely the paradoxically antagonistic relationship between so-called best practices and truly good ones, a paradox embodied in the notion of assessment. We have all felt the vague and originless pressure toward an “assessment culture.” We hear it from politicians, the press, accreditors, administrators, other faculty. We know we are supposed to “measure” some set of “outcomes” that justify our institutions and our roles within them. Yet, when we feel inclined to resist that pressure, we are made to feel as though we are trying to get away with something—as though we do not want to be accountable like everyone else who gets a paycheck. And there is some truth to that accusation—we certainly do not want to be subjected to the same corporate surveillance inflicted on most employees in the neoliberal manageriate—but this is neither because we consider ourselves above that sort of thing (in fact, we do not want anyone to be subject to that kind of Orwellian atmosphere), nor because we do not want to be held accountable. On the contrary, we feel a profound sense of moral responsibility to our students, colleagues, and institutions and we strive for stronger and more intimate ties of stewardship. But an “assessment culture” does not seem to accomplish these ends; instead, it tends to engender an alienated, relationally distant bureaucratic system of control and compliance masked as a system of quality and improvement. The dilemma we face is again acute—precisely because we desire the communitarian bonds of mutual accountability and responsibility, we feel compelled to resist the “assessment culture” that superficially claims these same ends.

This dilemma is complicated by the fact that we are required (and sometimes choose) to embody and enact this culture, faculty becoming the administrators of our own surveillance. We feel some ambivalence about this compliance, in part, because it originates from and results in many good faith efforts; but these are still set within a larger culture of bad faith. The accreditation process is a good example. Anyone who has experienced a good site visit has seen the good faith of particular faculty and administrators genuinely trying their best to listen and offer perspective—we have had site visits become occasions for solidarity and collaboration and not the Orwellian surveillance we fear. At the same time, we have seen the larger accreditation process eschew that relationally close, hermeneutic dynamic of the site visit, and replace it with bureaucratic forms—alienating and distant reports, seemingly arbitrary requirements, threats; and, in particular, the recent and disturbing move toward a more “standardized” and centrally controlled accreditation process (Camera 2016).

We have experienced this same dynamic across assessment contexts. All of our departments, for example, have received unfunded mandates to self-assess and well-intentioned faculty have done their best to comply. Such efforts have generally begun with an attempt to approach the task in a straightforward way—involved discussions about program goals, attempts to develop meaningful documentation, the creation of reasonable and well-organized plans. These activities often get us

thinking about our obligations to our students, seeking ways to evaluate ourselves and one another in a sincere attempt at improvement. But the realities of “assessment culture” inevitably push any such good intentions toward bureaucratic forms, particularly when we are required to quantify our assessments, shifting from a trust in the report of those most intimately involved in the complexities of our work to a trust in the reductionism and seeming objectivism of a few numbers.

Another stark reality of assessment culture is the lack of resources to actually produce meaningful assessment. Indeed, “assessment” is itself a product of strained institutional resources—a reflection of systems too complex to understand relationally, thus requiring “standardized” and proceduralized forms of accountability—and so additional resources are unlikely in this already strained system. The result is that this institutional strain is pushed down the hierarchy. Legislators require assessment but provide no funds to do it; central administrators pass that mandate to particular institutions, whose administrators pass it down to middle level administrators (an “assessment office” of some sort) who pass it down to faculty, where it becomes uncompensated “service” (the cheapest of solutions). But, with increasing class sizes, course loads, publishing and grant requirements, etc., faculty do not have the resources either, especially since a majority of courses are taught by adjuncts (the most precarious of academic castes), so that even with the best of intentions among all parties, there is only time for, at best, bureaucratic forms of assessment. Thus, individual responsibility and relationally close systems of stewardship are re-distributed into impersonal systems and bureaucratic procedures. We are given “best practices” that have no specific relation to our institution or our students, and these are given to us by no one in particular (other than a vague and impersonal acronym).

The culture that results from such a relationally distant system is alienated and ultimately plotted within a dynamic of control and resistance/compliance. We cannot build networks of stewardship with distant committees or rigid bureaucracies; these do not know us or our communities; we do not share responsibility with them; we “deal” with them as best we can. “They” are faceless and their impositions almost always feel irrational and onerous. When we try to fold our sense of responsibility and stewardship into such assessment bureaucracies, we feel only frustrated and alienated. “They” only want specific forms satisfied and we eventually learn to just satisfy them, to do what is necessary to meet requirements that have no relationship to our needs, struggles, or successes. The result is a truly bad faith effort: we have no faith in the assessment process and find it, in fact, inimical to our own sense of responsibility, but we dramatize a “culture of assessment” because we have to, and then find our own ways to actually better fulfill our real responsibilities.

In this assessment atmosphere, we have tried various strategies to lean toward something more sustainable, although it is in this realm that we experience the fewest degrees of freedom (i.e., whatever we do must at least appear to satisfy bureaucratic demands). For example, rather than simply relying on end-of-semester student evaluations to judge the quality and success of our teaching, we have made a point of seeking feedback and exemplars from our colleagues, both in casual

conversations and more formal settings. Two of us have had the opportunity as junior faculty to team teach with senior faculty members; this close collaboration has allowed for a sort of apprenticeship relationship that encourages reflection on teaching strategies, shared feedback that is both informal and formal, and profound, sustained conversations on pedagogy. In addition, we have asked colleagues to observe our teaching and give feedback and we have offered them the same in return. Rather than reducing the complex dynamics of our classrooms to questionnaire responses, these collaborative practices allow us to address the richness of these dynamics and to do so within a close community that is committed to our mutual success and the quality of our teaching. Although our time for engaging in these collaborative practices is more limited than ever, they highlight our attempts at responsibility and accountability situated in the close relationships where such responsibility most deeply resides.

Though they do not supplant the more reductive forms of assessment, we like to think that these practices help us distinguish where our true moral responsibility lies. We believe that an ideal model of stewardship would be founded on a chain of trusting relationships: department chairs and other “on the ground” leaders who spend time in faculty classrooms and know, through close interactions, the successes and failures of their faculty; deans and provosts who work closely with department chairs and develop a well-grounded sense of trust in the care and scrutiny they bring to faculty members’ work. We envision similar relationships across the administrative structure of a university, such that those receiving an account of another’s stewardship know and work closely enough with those reporting on that stewardship that they have a keen sense of how trustworthy that report might be (and an ongoing relationship able to address challenges as they arise).

Productive or Meaningful

A final dilemma we wish to consider is the tension we feel between genuine scholarship and industrialist hyper-production; in other words, the publish or perish treadmill so familiar to most academics. We consider this dilemma in the form of a contrast, between the collaborative, slow scholarly project that the current essay is a part of and our more typical experiences of constant pressure to “produce.”

This essay is part of a larger project analyzing the industrial roots of many contemporary practices in higher education, a project that no one required of us (in fact, we were sometimes cautioned about “wasting” our time on it), and that there was no pressure to complete in any particular way or by any particular deadline. We chose this project, not because it was connected instrumentally to any sort of professional advancement, but because we considered it intrinsically and vitally important. Because it was carved out of our daily professional schedules, it has taken years of regular, slow, collaborative thinking and writing, getting to the project when we could, but mulling it over when there was not time to read or write.

This long, slow schedule was a necessity because of other demands on our time, but it turned out to be a great boon. Because we took time to think (a vanishing luxury in contemporary higher education), our ideas and our writing percolated, matured, and settled. We also had the project on our minds for years, so it began to cross-fertilize across our everyday work as academics, influencing our other projects, our teaching, and our institutional relationships. We had years of slow osmosis between these ideas and our other practices, years of both inspiration from our ideas and a real-world vetting for their usefulness and faithfulness. And, feeling no pressure to chase grants, to self-promote our work in this area, or to crank out presentations and publications, we avoided such instrumental pursuits as they would likely have sapped the meaning and purpose we found in this scholarship. We have had more success than we anticipated in publishing this work, but much more importantly, we have felt great satisfaction, and even fulfillment, in both the doing of this work and its products. It has been good work—good in intention, good for everyday practices, a good representation of our ideas and values—and never the busywork of industrial production. It has also been work rooted in close and meaningful collaborative relationships, as we have grown together in pursuing this scholarship.

The contrast between this work environment and our more representative experiences in the academic production treadmill is glaring. The driving (unwelcome) pressure in our everyday work lives comes not from what we find vital but from the number of lines on our curriculum vitae; not from the intrinsically and organically meaningful challenges of our scholarship, but from the pressure to produce grants, publications, awards, and honors. A “high-volume” approach to tenure and promotion hangs over our heads, pushing us to take on projects that are quick or easy, or that can produce resources. Our thoughts are often turned to publication and production cycles, to impact factors and citation indices. The value of our work is judged extrinsically—by its contribution to institutional wealth and prestige—and we feel forced to judge it in the same way. The result of these pressures is too often fragmented, shallow, disposable scholarship and a constant sense of a harried, unfinished, and compromised intellectual life.

Even at teaching universities where the pressure might appear to be diminished in terms of number and impact of publications, we find that there still tends to be pressure for a kind of industrial productivity. This may be in the form of increased demands for publication and presentation, but also in terms of teaching load, class size, administrative and service duties, and teaching formats. We have encountered, for example, pressures toward creating online classes that are largely stripped of the meaningful relational qualities that animate and enliven our motives for teaching in the first place. The push is to reach more students with the content, but has little concern for the interpersonal dimension between teacher and students that many students regard as the most crucial aspect of their university experience (see Ray and Kafka 2014).

In the midst of these demands, we have found a way, in the form of this scholarly project, to push against industrialism and lean into a more sustainable approach to research. In spite of the time this project has taken, it has been

successful even by some industrial standards; and still, *because* of the time it has taken, it has proved to be one of our most meaningful, satisfying, and thorough projects. As a whole, this project has given us hope that if we can spend some of our time in more sustainable pursuits, we can demonstrate that sustainable scholarship might be worth doing.

Conclusion

There are certainly other ways that an industrial vision patterns the academy (and other forms of resistance), though perhaps not all are as dilemmatic as those we have discussed. There is, nevertheless, a general texture to our experiences with industrial practices—these force into conflict different elements of our own ideals, felt responsibilities, and visions of the good life. The narrowly instrumentalist demands of an industrialized research culture set at odds our commitments, on the one hand, to careful, critical, scholarly research and, on the other, our responsibility to socialize our students (for their own, and the discipline's, instrumental ends). The industrialized professional culture that demands disciplinary standardization undermines and distorts our commitments to responsibility and stewardship, plotting them within systems of surveillance and control. The expansionist ideals of industrialized institutional culture create local disciplinary and community standards antithetical to slow, meaningful, human scale teaching, and scholarship.

Part of why we have told our story in terms of these quite personal and deeply felt dilemmas is in the hope of making more immediate and personal (and thus more recognizable) the larger critique of industrial forces that we have developed. We have also told the story in this way because it highlights the possibilities inherent in the approach to change we have advocated here (and elsewhere); an approach that we think is consistent with the notion of sustainable development. We are advocating evolutionary, rather than revolutionary, institutional change—that is, local, slow, adaptive changes networked across lateral community collectives (all characteristics embodied in the notion of “grassroots” change), as opposed to rapid, “scalable” (i.e., generalizable and abstractable) structural changes imposed within hierarchical systems of control.

This is an approach not just consistent with sustainable change, but actually quite characteristic of twenty-first-century networked society. In the new millennium, we create social change through voluntary online petition drives (e.g., change.org), build capital through crowd funding (e.g., kickstarter.org), distribute complex technical work like software engineering (e.g., open-source development, GitHub, etc.) or even science (e.g., various open science initiatives, the replication project, etc.) through voluntary professional networks. This networked approach, this grassroots change, is evolutionary in the sense that it grows from and is adapted to specific local concerns, but disseminates across lateral community networks; it develops through slow accretions of pooled influence or resources and through gradual accommodations to specific environmental demands.

It is in the spirit of this grassroots change that we have written of our (admittedly inadequate) resistance to the dilemmas industrialization forces upon us. We are under no illusion that the neoliberal, corporatized, industrial forces of modern life can simply be overthrown or ignored. We must all grapple with them in very immediate and personal ways, and we will often make uncertain and inadequate compromises in that struggle. But small moments of resistance carry their own self-justifying moral logic and, just as importantly, any of them can be seeds for cross-pollination and revitalization across the distributed networks of modern life. Principled and committed local action can create both local and large-scale change and our experiences suggest to us that these are the local seed cultures from which (we hope) a more sustainable academic culture can grow.

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Chapter 20

Educating Specialists in the Context of Postmodern Citizenship: Keep Calm and Carry on



Jorge Castro-Tejerina

The Rape of Higher Education in Europe (and the West)

Since very early in the twenty-first century, European institutions began an ambitious reform of higher education with the creation of the so-called European Higher Education Area (EHEA), to be established in all EU member countries. Very generally, the aim was to adapt instruction to the times by enhancing students' professional effectiveness and ensuring their mobility in a ubiquitous, changing and competitive marketplace. Significantly, nearly as much importance was attached to learning foreign languages and mastering new technologies as to the specific content and research strategies required in each area of knowledge. Although the EHEA was backed by education and psycho-pedagogical theorists, the respective scientific rhetoric barely masked its firm engagement with economic and mercantile criteria (Urbán et al. 2006; Loredó and Arruda 2011). The Leuven communiqué formulated by European Education Ministers in 2009 could hardly be clearer:

With labour markets increasingly relying on higher skill levels and transversal competences, higher education should equip students with the advanced knowledge, skills and competences they need throughout their professional lives. Employability empowers the individual to fully seize the opportunities in changing labour markets. We aim at raising initial qualifications as well as maintaining and renewing a skilled workforce through close cooperation between governments, higher education institutions, social partners and students¹

¹Communiqué of the Conference of European Ministers Responsible for Higher Education, Leuven and Louvain-la-Neuve, 28–29 April 2009: http://media.ehea.info/file/2009_Leuven_Louvain-la-Neuve/06/1/Leuven_Louvain-la-Neuve_Communique_April_2009_595061.pdf.

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Employability and skilled labour became the focus of higher education, eclipsing or even eradicating one of the basic competences that anyone with a university education had previously been expected to have, namely the ability to think critically about the physical, chemical, biological, psychological, social, educational, political or similar ‘facts’ with which they were to work. As a rule, in the social sciences that critical dimension was essential not only to understanding but to transforming the human societies targeted by academic endeavour. By the same token, these professionals’ ability to think critically would be reasonably expected to be mirrored in the critical capacity of the citizenry as a whole, the study target of which they themselves formed part.

The EHEA was not, however, absolutely new, historically speaking, but rather endorsed a trend that had been altering the West’s traditional anthropological project for several decades prior. That trend progressively widened the gap between *homo economicus* (the citizen understood as producer–consumer, or ‘prosumer’) and *zoon politikon* (the politically participatory, reflexive citizen), to the detriment of the latter. What is new in the EHEA example, particularly in connection with its mercantilist dimension, is that the gap has ultimately seeped in a socio-institutional domain believed to be risk-free. Until recently, higher education had been one of the privileged areas where the relationships between the two anthropological models were devised and endorsed and where their respective administrators were trained. Its present subjection to market forces has induced confusion, not to say ire and indignation, among many university teachers and professors who, lacking any pecuniary interest, thought we were contributing to the best possible of worlds and subjectivities (Blanco and Castro 2007). That is indisputably the undercurrent running clearly and critically throughout the chapters in this part of the book (Clegg et al. 2018; Kryachko 2018; Shestakova 2018), written, significantly for the global reach of the issue addressed, by academics engaging in different disciplines in different countries.

Modernist Nostalgia

I believe the pessimism that has taken hold of the animus of many educators is inseparable from a certain ‘nostalgia’ for epistemological ‘conquests’ and practice which, from the origins of modernity in the late nineteenth and early twentieth centuries, we believed assured or obvious. Conscientious, tidy and exacting scientific work then seemed to guarantee an understanding of reality and, by extension, the important social mission expected of education at its highest and most sophisticated levels. Among other things, the functions and roles to be assigned to educators, trainees and citizens at large were well defined and imbued the West’s collective scheme of life with genuine meaning. Nonetheless, as these chapters show, it can no longer be blithely assumed that scientists pursue the truth *über alles* when they publish their papers, that professors further critical thinking among future professionals or that specialists studying a given social phenomenon feel

responsible for what their fellow citizens think. Learning to make a good living by responding to job market demands or training to be skilled labour as called for by the Leuven conference seems to have outpaced all the more classical aims of academia. To different degrees, the outcome is a general sensation of loss of meaning in work and the university's purpose as we knew it before the advent of postmodernity.

While not questioning the moral or argumentative relevance of that nostalgic narrative, I believe one could be readily tempted to adopt an overly schematic, dichotomous and ideologically polarised stance between the before—committed, generous and profound modernity—and the after—individualistic, mercantilist and banal postmodernity. Such a stance naturally oversimplifies very complex and multidimensional sociocultural changes, an understanding of which unquestionably calls for a certain analytical, even dispassionate, distance. In short, while it may appear obvious, we should begin by saying that neither the good old (modern) days were invariably good nor is today's postmodernity consistently bad.

In our opinion, account must be taken of the fact that the historical-cultural pathway that connects modernity and postmodernity is characterised less by cleavage and interruption than by genealogical and structural continuity, its 'epistemic' foundations, to use Foucault's (1970) expression. Ideally, that transition should be analysed in all its density and complexity, considering the host of intersections, assemblages and (economic, ideological, psycho-sociological) crossover effects taking place in the last 150 years. In particular, it should address the interrelationships among the three social-institutional domains and cultural functions most relevant to this discussion: university professors and educators, students aspiring to be social scientists and the public at large. I underscore 'ideally' because, obviously, the explicatory ambition of these remarks is necessarily modest, bordering on the caricaturish. We aspire, rather, to minimally rethink the general context of the questions and uncertainties that feed this sensation of confusion, nostalgia, pessimism and meaningless endeavour that pervades many academics', teachers' and researchers' daily routines.

That said, the general key to our perspective is genealogical: postmodernity is understood as a restructuring of Western modernity, a turn of the kaleidoscope. With its first positivist and subsequently Mertonian message, modernism charted a cumulatively directed course of disinterestedness and objectivity for modern science, all against a general backdrop of contributions to welfare, justice and liberal nation-state progress. That was the stated mission of the Humboldtian University, which from the nineteenth century and up to the dawn of postmodernity served as the fundamental model for organising higher education in the West.

Within that academic context, the social sciences and humanities strove to ensure due operation of the gears that drove facts and values, adapting them with surgical composure to the patterns of social reality. Such a highly ambitious programme, justified by presumably objective and therefore universal knowledge, aspired to disseminate and implement the 'civilised' and 'humanistic' ideal and values around the world. What such universal civilisation should look like was, logically, defined by Western powers and their intellectual and political elites.

At the outset at least and above and beyond overly abstract and idealised borderless humanism, those elites attempted to improve the position and sociopolitical influence of their own nation states on the international stage. Such nuances to universalist references paved the way for the use of national or cultural exceptions and singularities to justify decisions, leadership positions and developmental asymmetries in 'civilisation', in connection with both the West's neocolonial attitude and each State's own internal sociopolitical organisation (on these issues, see Castro-Tejerina 2015). Citizenship, still national at the time, was clearly distinguishable from today's global version.

The West as a whole concurred about the basic elements of the design and the asymmetries entailed in building such new standard national citizens. Among others, a series of sociocultural functions established around that design were to be assigned by higher education itself. The outcome was an archetypical social divide. One side consisted in active elites, engineers and social specialists (clinicians, educators, politicians, economists, journalists and so on) well aware of what needed to be done to contribute to the democratic, liberal, modernist project. The other was populated, logically, by the passive mass of citizens who, to some extent, would consent to be cast with the educational, diagnostic, clinical, and informational tools at hand to attain the desired social model. In short, the priority of social engineering was to place citizen awareness at the service of the collective engagement, while its more or less critical component was, in most cases, a side effect or subsidiary aim.

In any event, neither the modern nation state was the monarchical *ancien régime*, nor the model citizen was comparable to the traditional subject or serf. The liberal democratic edifice could only be supported if citizens as specific individuals were afforded a certain degree of independence. As a number of studies have shown (Blanco 2002; Foucault 1991, 2007; Rose 1998), the modern programme called for building a type of subjectivity that lived in and understood itself, i.e. reflexively, as individuality responsible for its own civic behaviour. In principle, in the absence of control, coercion or external, ongoing panoptical surveillance, this design for self-governed subjectivity was to guarantee any member of the population's constant and comprehensive engagement with the new social model. The alliance between individual and State was progressively and effectively strengthened from the late nineteenth century onward because that model also promised personal and material happiness and welfare to a growing portion of the population.² Reciprocally, modernist citizens subjected their freedom and independence to the conservation of the liberal proposal for life in community. In other words, they were to be willing to make a sacrifice in situations of severe social need such as war or socio-economic crisis. That clearly circular sociocultural structure ensured stability and individual existence providing the structure itself was protected by citizens' conduct (on these issues, see Sennet 2000).

²That was achieved to varying degrees of success in the twentieth century by countries embracing the West's liberal democratic model. Further to socio-economic standards, however, their adoption of that model obviously failed to ensure many countries' membership in the club of so-called first-world countries.

Postmodern Disruptions I: Reality as Academic Principle

The modernist scenario schematically described in the foregoing was obviously transformed or, more precisely, restructured in the postmodern sociocultural context. To some extent, however, that constituted a continuation and deepening of the process of strategic individualisation discussed here. Running parallel to the furtherance of reflexive practice and technologies among the population, ultimately that process has often been conducive to the adoption of a more detached view of the (possibly) Habermasian (Habermas 1976) epistemological, educational and political compact prevailing in Western rationality and the concomitant model. More specifically, it has disrupted the classical identity- and hierarchy-based relationship that Western political, academic and intellectual elites had been attempting to forge since the late nineteenth and early twentieth centuries between the scientific meaning of reality, in epistemological and ontological terms, and both the political meaning of the State, in socio-economic terms, and the existential meaning of life, in biographical and civic terms.

Contemporary disruption of that identity at the highest level is exemplified in the possibilist, ironic or irate pessimism with which our chapters address the disappearance of the classical aims of science. Emanating from their complaints is something much more radical, however, a veritable inversion of the relationship between the functions of identity and the status of ‘reality’ per se. Previously, in modernity, scientific work appeared to discover and arrange the nature of reality, providing a referential understanding of it and hence of social reality. Today science is veiled by the self-seeking, virtual or imagined pragmatism imposed by self-referential, postmodern reality. In this respect, our chapters broach questions critical to academic endeavour, such as the production of and market for scientific papers today, in which content has been rendered banal, alternatively parodying the business cycle and securities markets (Kryachko 2018)³; the totalising nature of virtual designs and tools in connection with both the representation of reality imposed by their computing power (Kryachko 2018) and the inflexibility and narrow directionality of new educational technologies (Clegg et al. 2018)⁴; or the wasteful deviation of time and effort away from teaching and research tasks to

³The wholesale, compulsive output of articles has been shown to support the viability of the scientific paper exchange or market. Mimicking the logic of financial rating agencies, these content-opaque, presumably objective indices and values are generally used to assess the quality of professors, universities and research institutes.

⁴Despite the influential trend to regard new technologies as spaces for individual agency and reflexive and critical development, their doctrinal and purely technical use in education are not only possible, but common. In that respect their potential functions do not differ significantly from those fulfilled by other communication technologies in the past. Reading and writing, to cite one obvious example, was used from Ancient Greece through the advent of the modern nation-state to discipline subjectivity and place individuals’ activity, and more specifically their productive activity, at the service of the sociocultural logic prevailing at the time. The genealogical intertwining of reading–writing and new technology is obvious in this respect (Castro-Tejerina 2014).

attend to rafts of bureaucratic procedures, which while purportedly intended to control the quality of academic work, actually obstruct and render those efforts more costly.

For committed academics, that inversion of hierarchy and roles severely altered their ability to offer scientific-epistemological guarantees in the understanding of reality and therefore in proposals for social interventions consistent therewith. By extension, without the reliable backing of social engineering, the State's resolve could scarcely aim to circumscribe and structure individual resolve to its expedience. The social compact attendant upon modernity therefore grew more fragile, diffuse and open to new forms of sporadic or even ephemeral negotiation and alliances.

Postmodern Disruptions II: Empowered Citizens and Critical Specialists

The new postmodern context has enabled many (but not all) Western citizens to upgrade their agency through reflexive resources. Such citizens have begun to wield relatively autonomous power to decide what to do with their lives: where to target their zeal, what to consume, how to use or risk their own physical integrity and so on. In so doing, they can come close to or even 'invade' cultural functions and skills traditionally performed by social specialists.⁵ In the postmodern context and aided by new technologies, citizens organise in mutual support networks, replacing psychologists; citizen information networks, replacing journalists; or cooperative learning networks, replacing teachers.

⁵Among others, reading–writing afforded whole populations, illiterate or nearly so until the institution of cost-free public education, the ability to objectivise or acquire awareness of the collective narratives proposed for their consumption. Reflecting on, or more exactly imagining, other possible worlds as proposed by Bruner (1986), may detract from the credibility of the one in which we live and critically weaken the narratives that persuade us of its inevitability. Even in its totalitarian excesses and leanings such as Fascism and Stalinism, the liberal and social democratic project emerges with its own educational contradictions: between the constraints on citizens who tend to critical, autonomous, politically participatory absolute self-governance in democracy and citizens who, trained to drive material progress in the sophisticated industrial world, tend to optimise their productive skills. Postmodernity, with all its multicultural, cyberspatial, neo-capitalistic complexities continues to seek while redefining that difficult balance on the grounds of other parameters. Perhaps less than the prevalence of the neoliberal monster, and with its productive or 'prosumer' citizens, what may be underfoot is the pursuit by self-governed citizens of realms of adscription and engagement that blur the classical bounds of the nation state. The appearance of alternative identities through the empowerment of material and virtual communications and the universalisation of digital literacy enables people to continually update their loyalty to a remote reality, whether the place of origin or virtual communities. Paradoxically, this virtual experience may be felt to be more familiar and rewarding than quotidian face-to-face experience and, naturally, than the imaginary community proposed by the nation state (Anderson 1983).

Obviously, nothing guarantees the professional, critical or solidary responsibility of these personal choices. Much of the concern voiced by specialists has to do with the banality that appears to characterise many. That accounts for significant share of the misgivings emanating, for instance, from E. Shestakova's (2018) chapter, in her explanation of the undesirable effects of today's sensationalist, escapist and frivolous journalism, geared to immediate and compulsive individual consumption, on public opinion and awareness.⁶ Moreover, the choice of agency is never ideally solipsistic or 'free', in the light of some individuals' very dramatic life circumstances (inescapable migration, forced labour, subjugation) or the interests and influence of manufacturers of material (within neoliberal logic) and identity-based (multiplied by cyberspace and multiculturalism⁷) consumer products. On the contrary, bereft of the security afforded by the modern nation state, we are confronted with the absolute de-localisation and anomy of such processes. Unsurprisingly, while the metaphor normally used to understand the model for life in community posed by the modern nation state was the 'body', the postmodern scenario is most commonly likened to a 'marketplace' or even a 'bazaar'. That mercantile allegory underscores the elective, ubiquitous, accelerated proactivity of the global citizen or 'prosumer' as opposed to the classical image of a more sacrificial, locally based and temperate national citizen.

Empathising with such prosumer citizens, in recent decades many, although not all, social specialists have been acquiring a critical awareness of the passive role 'inflicted' by history on the suffering masses. The result, their confrontation with power structures in the modern context, made them the lords and masters of subjective design. Although with some nuances that situation might be said to lead to the moral crossroads described in Clegg et al. (2018) insightful chapter, where the demand to continue to train conventional psychologists against the backdrop of the perversions of the postmodern marketplace clashes head-on with the need to offer them truly effective, critical and reflexive tools, in keeping with sustainability evocative of modernist responsibility and acknowledgement of organic processes. Their chapter discusses the problem of the limited time available to educators to address both demands. But that does not conceal the fact that we are witnessing a

⁶The manipulation and banality of information, essentially everything that is now labelled as 'post-truth', are not a postmodern invention. Journalism by definition aims to shape public opinion and that includes manipulation in a number of directions. Sensationalism, yellow journalism and the politically self-interested use of journalism hail back to the times of William Randolph Hearst and Joseph Pulitzer.

⁷The sort of influence referred to here must be clearly distinguished from the 'conspiranoid' definition adopted by the public at large, in which citizens are viewed as mere agency-less puppets, remotely controlled by presumably well-planned, perverse ideological, material and economic interests, master-minded by certain powerful elites: and not because such attempts have never been made. The truth of the matter is that there is no socio-economic or psycho-sociological scheme able to subject and model the incommensurability and unpredictability of such a large number of historical-cultural factors, webs and pathways that concur and interact in the long term. Indeed, as in Borges's story, any attempt to build a map, theory or plan exactly concurrent with what may be regarded as 'reality' is sheer madness.

drama played out by two conflicting worlds, each bearing and finding solutions for the heavy legacy bequeathed by modernist engineering.

One of those worlds, associated in the chapter with the market, reveals a new parodic inversion of functions, along much the same lines as discussed in the preceding item. Over the last one hundred years, specialists have adapted their functions to the social milieu with which they were confronted by ‘professionalising’. As pointed out as well in Shestakova’s (2018) chapter, at times they have done so to the point of losing sight of the organisational and prescriptive responsibility demanded by modernist social engineering.⁸ In the postmodern context, in stark contrast, the new mercantile reality determines what educator and apprentice specialists have to do and how. Drastically reoriented professional criteria now depend more on pecuniary factors, technical aspects of care or even cooperation with the socio-economic status quo. As noted at the outset, the specialist is now an employee or mere manpower at the service of certain postmodern business plans.

The second of the modern legacies, associated with sustainability, evokes the determination to understand the events comprising reality to optimise its organisation. Perhaps for that reason the chapter by Clegg et al. (2018) and, in another vein, the article by S. Kryachko (2018), insist that sight must not be lost of our immediate social, even local and quotidian, context, in favour of virtual and global reality, a stance that would appear to imply the defence of greater professional reflexivity and critical awareness of their work.⁹ In my opinion, however, virtual and global are imponderable conceits that inevitably affect the new fragility of everyday affairs, affording them their present accelerated, ephemeral and disturbing nature. I in fact believe that it is postmodernity’s inevitable self-referencing that may usher in a new form of critical reflexivity, translating the classical ‘realist’ urge

⁸That professionalisation itself is part of the problem is underscored by the fact that, for instance, there were no ‘professional’ psychologists or journalists in the late nineteenth or early twentieth centuries. The academic degrees specific to such studies were not created until well into the latter. Before then, their sociocultural functions were assumed by generically educated elites with degrees in medicine or the humanities: law, economics, liberal arts and so on. That broad-based training provided the foundations for the deeply humanistic and critical view of the clinical or informational tasks performed, the same gaze apparently yearned for in Shestakova’s (2018) chapter.

⁹As in other cases, a more specific and focused analysis in this chapter would illustrate many other continuities and at the same time, the contradictions that surround the genealogical connection between modernity and postmodernity. The chapter’s commitment to sustainability associated with academia’s participation in its immediate quotidian context appears to be consistent with new forms of localist identity. Consequently, despite the assignment of the notion of ‘sustainability’ to modernism, we are presented with an argument typical of the postmodern context which, above and beyond globalisation, would also clash with such basic issues for modernity as the universalist aspiration of the Humboldtian academic model or the priority ascription of subjects’ identity to the nation state. In any event, the idea of ‘sustainability’ is not at all novel and would also be rooted in modernist historic-cultural pathways. In this regard, it is reminiscent of the misgivings expressed by much of US liberalism, both progressive and conservative, about the excessive bureaucracy and centralisation at the national level of the model for coexistence and its management. Autonomy, self-governance and organisation in small communities form part of the country’s very foundations.

(with its insistence on genuineness, authenticity and significance) into a new de-constructive gaze on any manner of status quo, be it global or quotidian, terms which, in any event, are no longer distinguishable. That provides for a tool with which trainer and trainee specialists can acquire an awareness of the vices and inadequacies of both modernity, with its persistent and moralising asymmetry in citizen design, and of postmodernity, with its subtle strategies, banalities and ambivalent identities. In short, despite all its irritating problems, postmodernity also holds out the possibility of structuring critical visions as alternatives to the indiscriminate exercise of power, both in its modern monolithic and its manichaeistic postmodern versions.

Training as Precarious Empowerment

Any attempt to conceal the more or less nihilistic or relativistic foundations of these remarks would be as misleading as futile. At the risk of contradicting some of the authors of our chapters and with them, Aristotle himself, I have no reason whatsoever to believe that all human beings by nature seek knowledge, nor to assume that such an urge would necessarily guarantee greater epistemological and moral riches in absolute terms. Consequential to the intertwining of both cultural and anatomical–physiological factors that I cannot discuss in full here (Castro 2008), a more accurate postulate may be that humans are necessarily doomed to seek meaning to their lives and experience of reality. Even before their birth, a subject's project is driven by motivational material and symbolic practices and spatially and temporally located structures that inevitably preform, without determining, the effective and virtual course of their lives (Valsiner 2007). In that practical process individuals shape their own regulative, one might say moral, meanings and engagements while at the same time transforming such structures and their own understanding of self. We are, in effect, meaning-creation devices and any manner of moral appraisal, while essential for the various forms of life in community, must by definition be localised.

From a methodological standpoint, modernity and postmodernity could both be defined in terms of one of these motivational or moral structures with which we are historically and culturally confronted as meaning creators. They have furnished us with formal and regulative theories on what the world and we ourselves mean and have helped justify the organisation of our life in community in a given manner. But outside of more or less apt pragmatic resolutions, such structures can hardly tell us what the world or life actually means or what should be done to broach or comply with some manner of self-transcendental cosmic plan or Kantian noumenon. As mentioned earlier, modernity and postmodernity are mere historic-cultural contexts, albeit the ones that have most recently defined us as subjects, most particularly, for the present purposes, as respects Western citizenry and the population—social engineering dialectic entailed therein.

These remarks stress that postmodern motivational structure has not eclipsed citizens' or specialists' classically modern bipolar self-consciousness. Rather, such awareness has been conserved via the emergence of two new variations: the global citizen's empowered self-consciousness and the critical social specialist's guilty conscience. The hybridisation of or 'straddling' between the purposes and functions attributed to all these versions of specialists and citizens is characteristic of the circumstances in place today... and almost certainly constitutes the factor most clearly responsible for complicating and misleading the mission of those of us who teach psychologists, journalists or any other social professional or specialist.

Nonetheless, despite the prevailing confusion and pessimism, specialist educators still have a significant sociocultural role to play in the postmodern context. One essential prerequisite will be the ability to meet or even dodge banal bureaucratic and academic productivity requirements that alter the necessarily deliberate pace imperative to critical reflection. Contingent on such an ability, educators can become effective mediators, contributing to the construction of the new reflexive, hybrid, de-professionalised and democratic agency represented by the citizen-specialist.

To the extent that educators themselves shed their modernist ingenuity, they may help specialists (psychologists, journalists, politicians) in training deploy critical awareness, thereby ensuring they will not lose sight of their own status as citizens. Similarly, educators may engage in honest dialogue with the 'man and woman in the street' by openly admitting (perhaps publicising?) the complexity, interests and controversies interwoven into both modernist and postmodernist social engineering. The boundaries between citizens and specialists would thus tend to fade or perhaps be redrawn, at least as respects the assimilation of responsibilities in the construction of a model for life in community, subjectivity and citizenship.

This approach obviously fails to guarantee that a given individual will choose, or engage in a single direction with, an indisputable or unquestionable sociocultural model, presumably the one most desirable or suitable from a political-ideological and socio-economic perspective. But it will at least induce citizens and specialists to ask, publicly, why and for whom their choices and determinations are 'desirable'. Along the lines of Rortyan (Rorty 1989) pragmatism, my proposal would aspire to enhance the possibility of collectively better informed, more critical choices, choices more aware of the paradoxes of the postmodern world, although admittedly individuals will ultimately decide as they choose or as their circumstances allow. In the final analysis, we may opt to behave in ways we deem engaged, genuine and significant, as demanded by some of our chapters, or on the contrary, to aloofly adopt ironic or strategic attitudes.

In our opinion, we should turn postmodernity's new epistemological, cognitive, material and virtual resources and tools, theories, social networks, crowdfunding endeavours and so on to our advantage, as a more effective strategy for resistance than pining for modernity. With the flaws and ideological paradoxes of those times now in full view, there would appear to be scant justification for educators to look back in pursuit of the comfort apparently afforded by melancholy consolation. The alternative is to attempt to collaborate actively in understanding and confronting the significant ideological, psychological and sociological implications of the complex

process of sociocultural change and therefore of the subjectivity in which we are wrapped; as we have tried to explain, the wool in that ambiguous and contradictory blanket is shorn from a hybrid resulting from interbreeding a wide variety of alternatives inherited from modernity itself: zeal and banality, engagement and egotism, remoteness and proximity, fundamentalism and relativism, ingenuity and strategy and so on. It is, of course, always difficult to think reflexively *in medias res*, but at least we will no longer be fish unaware of our watery medium.

Acknowledgements This research was conducted as part of the European project *Between the Representation of the Crisis and the Crisis of the Representation*, funded by the European Union's Horizon 2020 research and innovation programme under grant agreement No. 649436.

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Part V
Current Collaborations and Future
Needs in Knowledge Making

Chapter 21

Education Without Fear: Going Beyond the *Curriculae*



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When we were talking about our personal perspectives on psychology studies at the University of Luxembourg, and our supervisor—who listened—came up with the idea to write a chapter about “Education without fear: Going beyond the *curriculae*”, we were stunned by the accuracy of this title. It summarised exactly what we were talking about. Yes, we all perceived the fear and pressure in our educational system and criticised the constraints and limitations under which we were put. Or did we rather voluntarily—possibly unconsciously—embrace them?

Contemplating Ourselves in Getting Our Higher Education

Therefore, a contribution to the present book seemed like a very interesting proposal. To further investigate our perspectives on higher education—in our case based on the experience of our psychology studies at the University of Luxembourg—we started from an introspection about our own feelings in the process of gaining university education.

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The Authors' Personal Stories: Towards Higher Education Through Fear

In research, especially in research which claims practical implications, it is crucial to stay linked with actual phenomena and real experiences. Starting from these, meaningful abstractions and theorising can take place. Hence, we focused on our own experiences and offer them as basis for further elaborations, interpretations and possible proposals for solutions. For that, we began brainstorming about our individual experiences regarding higher education and fear within higher education. We realised that each one of us focuses on a different aspect of fear. Therefore, the following introspections will detail these focused experiences of different aspects of fear. First, Franziska will talk about her fear of decision—a fear probably everyone can relate to. Lina will continue this contemplation about fear of decision while taking societal and systemic factors into consideration. Then, Marisa will tell us about her fear of changing her studies and Sarah will introspect on her experiences with fear and authorities. Lastly, Jennifer will close by pointing out her positive experiences with fear. For that, each introspective text will start with a concrete situation to introduce the specific fear and context of each author before contemplating this phenomenon more specifically and how we were all able to go beyond our fear and thus beyond the curriculae.

Franziska: Fear of Decision

In my case, I contemplated retrospectively my choice of psychology studies in general, the experience of my Bachelor studies, and my actual state. What seemed to be the outlasting theme was indeed fear. There was (and is) this preeminent fear to do something wrong, to choose something wrong or to decide something irreversibly which blocks later opportunities. External pressure has to be differentiated here: the fear I perceived had its internal or internalised source. This does not mean I did not perceive some kind of pressure from outside, but the important part was the intrinsic fear. Before taking up my studies, I perceived a pressure from outside, mixed with fear to choose the “right” field of study, without having a notion what this “right” even meant. During my Bachelor studies, this feeling took a backseat from time to time, but was nevertheless latently existing. And finally, when the next point of decision emerged (choice of Master studies), the fear of the “wrong” decision arose again with all its strength. In accordance with the fear of regretting a decision which later on turns out to be “wrong”, there is the desire of keeping open all possible opportunities. This leads me to rather stay in undecidedness than to dare one step forward and to make a commitment.

The easiest way to do so is to simply follow the curriculum. It is the “what all are doing will be fine”—mentality which hinders to get out of the preformed knowledge. It promises more security and safety, but gives no way to innovations. The curriculum (if we can talk about one set curriculum, it is rather a diversity of curriculae) is a set of socially currently desired knowledge, ideologically coloured and spoon-fed to uncritical recipients. But, and now this is the problematic behind

it, and apart from giving a huge power to the presently dominant (political) forces who decide about the curriculum, there is no emergence of new knowledge possible. No innovations can take place without going beyond the *curriculae*. In my opinion, creativity is a very bad companion of fear; hence, the omnipresent fear is hindering creativity to emerge. Surely, it needs courage and maybe even boldness to choose one's way, especially if it means to escape the general conformity. However, the first step lies in realising what is going wrong and in admitting the existence of fear of nonconformity and of decisions.

In my case, I realised only through my own experience of going "beyond the curriculum" that there is a full undiscovered world of knowledge and that there is more to studies (and to life) than just following the curriculum. This awareness has developed progressively, initiated through my internship at the Centre for Cultural Psychology at Aalborg. There, and followed one year later by a research assistantship at the same place, I went "beyond the curriculum". My stay was not mandatory, yet opened up my horizon. I got to know many interesting persons and their worldviews and started to think critically about psychology as well as about life in general. Staying only in the curriculum of my Bachelor studies and not daring to take this opportunity, I am not sure if I would have grown in this way. Yet, the awareness of this undiscovered world of knowledge beyond the curriculum feels good, but there is still fear to be found inside me. One could hypothesise that I am still too much in the old ways of perceiving, thinking and conforming.

I wondered where all this insecurity comes from? The reluctance to step out in the world and to start to make one's own mistakes? Has our world turned out to be too chaotic, too confusing? Due to globalisation, to the great recession, to high rates of unemployment, the world seems highly unstable, demanding a lot of flexibility and mobility. This instability of our modern world might be one of the reasons of the feeling of fear of young people. One reaction to cope with it is through passivity and to postpone or evade any commitment.

Taking a step away from society and a step closer towards the individual, how can this fear be analysed? It seems like—in my case—fear is a meta-level feeling built upon the mere imagination of a later possible subjectively negative feeling. Parallel to Bion (1997) who talks of fear of fear, it might be fear of regret and fear of sadness or unhappiness to a later point in life which leads me to stay in indecisiveness.

Lina: Societal Influences on Fear

During my whole childhood, I had taken interest in a wide range of different activities and had not only found most of the subjects taught at my school quite easy, but also liked many of them to a similar degree. This led to a very varied course constellation in my last two years of high school which combined with my general interest for different fields of studies and work left me with a huge amount of difficulties deciding what I actually wanted to study. I could easily imagine studying arts, design, or film just as well as biology,

linguistics or communication. The reasons out of which I ended up studying psychology were mostly that I perceived the discipline as wide enough to still be able to decide for a more biology, arts or linguistics-oriented path *after* doing my Bachelor's degree, therefore only stalling my decision and trying to take in as many different kinds of knowledge as possible. Now, as I am finishing my Bachelor's degree, I am faced with the same problem all over again as I have to choose to either apply for a specific master, take up a different activity while I wait and decide, start new studies, or even start a completely new path by working or changing my life design completely. I feel stuck in a phase, scared to make any step in any direction as I am simultaneously held back and pushed forward by my own fear of limiting myself and my contrary fear of not deciding soon enough and ending up poor and jobless. On top of that I feel societies opposing pressures to take as much me-time as possible while streamlining my education to become the most productive version of me as fast as feasible.

Any adult in today's society lives with a certain amount of fear. This constant exposure to different kinds of fears, ranging from small and acute to chronic and existential, starts to emerge for the most part at some point during a person's school career. In my case, the education-related fears started appearing during high school and had a first peak at the moment of deciding my future orientation after receiving my baccalaureate/A Levels. I have debated this problem in my head several times, and all of these times similar concepts and questions have popped up. I will try to elaborate the mechanisms that I think might be responsible for the emergence of fears in my personal context of higher education and how these mechanisms might or might not be changeable.

In my opinion, there are a variety of different fears caused just as much by people's own self-finding, questioning processes and thoughts of that kind as by an education system and even societal system that might not be an ideal base and enforces and amplifies certain kinds of fear and pressure.

Since every variable applies to people differently, there can be a big difference in how people perceive or cope with fears in the context of higher education. Personally, I have never experienced a fear of not landing a spot in one specific, coveted study position, because, as mentioned above, I have simply never had a strong desire to study anywhere or anything specific. On the other hand, I constantly feel the pressure to decide and re-decide further steps such as what studies to follow, what city to move to and what to prioritise. My problem leans to the side of having too many options, and my personality accentuates this problem. Other people may have the exact opposite problem and be dead afraid of not getting into the one specific place they wanted to study at. I have made a set of experiences with educational limits, problems and opportunities resulting in some kind of fear that other people may experience very differently, and I am constantly reminded by conversations with my friends and peers that other people might want to adapt the education system in the exact opposite direction than what I consider necessary. I think it's quite important to consider that these differences are also greatly influenced by social variables. A person from a very rich family will have a completely different set of problems and might want a very different set of solutions from the education system. They may, for example, be ready to pay more for a certain course, but expect more classes to choose from and options to personalise

the curriculum and get more support to make sure they acquire exactly the set of skills that interest them to pursue their dream career. Meanwhile, a person from a poorer background may instead rather want to follow a stricter curriculum with more examinations to ensure they get a standardised set of skills that make them employable within a minimal time while avoiding higher tuitions. Aside from the economic status, many other factors such as cultural values can also have an influence on a person's concept of good higher education. I tend to be more aware of these intersections because of my bilingual upbringing and the correlated fact that my mother's and father's families come from different cultural and economic contexts. Furthermore, all of my friends are from different countries including Japan and the USA which results in very interesting differences in viewpoints during debates about how to improve higher education. This does not make me an authority on international strategies on how to improve education of course, but it incorporates these elements into my own considerations.

To link this back to my first example, my fear of deciding too early and blocking out alternatives is certainly rooted in my own personality, my wishes to follow very varied activities, and my family's tendency to have several parallel activities in life, but it is probably highly accentuated by the living environment in which I live. In this higher middle-class living environment in a rich and stable country like Luxemburg, pursuing higher education might be a choice, but it is mainly an expectation, and degrees represent a certain amount of job security or even just chances on the job market. A person that hasn't been through a regulated higher education, followed rules and learned a certain curriculum of things to get awarded a symbolic degree will have a lot of trouble finding a workplace that doesn't only rely on the universities verdict about a person's abilities. The other side of the medal is that education might be nearly an obligation, but there are also close to no barriers to studying. In conversations with my friends from the USA, a country in which higher education is very expensive and where there are fewer protective mechanisms put in place to catch people if they don't find a job, the concerns are really different. This makes me think that there is not a single and easy solution to revolutionise the system of higher education and push beyond the enforced *curriculae*. Where one person might want more freedom, fewer deadline and less direction, another may need the pressure or the orientation to make sure they are learning relevant skills. Giving up on end-of-semester examinations or opening the curriculum might result in difficulties with correctly assessing a person's skill level and therefore making it less appealing for a company to hire them.

Within the current system, there are still several different ways to go beyond the curriculum for people from any background. Personally, I think that in most systems there might be a standard enforced path that everyone can follow, but there are always ways of going beyond or choosing a different direction by seizing opportunities such as exchange semesters or by specifically seeking out and asking about different options. In my case, and I imagine for most others too, there are several important factors that are needed to achieve this "going beyond". Firstly, it's of course important to inform yourself by asking teachers, collecting experiences from peers, online research, etc. to even find opportunities such as internships.

Another important element is the mentality of *wanting* to go beyond. This mentality can be passed on by family as general, awakened by a certain person of authority, or reached by the person through self-reflection. In my case, my father has always taught me to try and go for as many opportunities as possible while they exist since there is nothing to lose and much to win. As a teacher, he also always stressed the importance of not just conforming to the curriculum, but questioning and expanding the acquired knowledge through self-study. Of course, I cannot always find the energy in me to go the extra length, but I definitely keep the importance of trying to go beyond in my mind and seize opportunities wherever I can.

My conclusion from my own introspection and talking with my friends is that there are several problems and multiple possibilities to try and tackle them. It's obvious that different cultural and educational systems need to be adapted in different ways, but a universal measure might be to teach students from an earlier age that seeking out opportunities and potentially doing extra work is a desirable and useful skill. In my opinion, many systems reward conformity more than they reward own decisions and initiative which leads to students rather not looking for extra opportunities to avoid lagging behind in their basic curriculum. Part of changing this could be done by rewarding the extracurricular activities in some way or making it easier to access information about these kinds of activities.

Marisa: Fear of Changing Educational Paths

A few semesters into my first Bachelor degree, I realized I had chosen the wrong path for me. Admitting I had made a mistake in starting a Bachelor in Human Geography and Anthropology while what I really wanted to study was Psychology seemed impossible to me. Slowly, the thought of change formed: What seemed impossible to do at first suddenly became reality when I applied anew and got accepted into a Psychology Bachelor program. I had overcome all the fears and decided that taking the risk of being judged, investing more time and money into my education and postponing my entrance into the working world was worth it. Once I had made the first step, changing educational paths seemed like the only possibility for me – and suddenly felt normal. I had to go beyond my fears by facing them. I confronted my social surroundings, reflected what I feared and then found that there was nothing to fear than continuing in the wrong direction.

My personal experience with a special kind of fear in education occurred when I decided to change my subject of study. More accurately, fear shadowed my every step of the decision process from the first unconscious idea to the stage where I sought out information to the moment where I decided to try and the first steps in the new programme—fear is still there, but now, the other, what I call ordinary kind of fear.

For me, fear in education is divided into two categories: On the one hand, there is ordinary fear, the fear of failing classes, the fear of not being good enough and the fear of whether my education will enable me to earn a living by pursuing a passion and fulfil me intellectually in the long run. One has to keep in mind that the notion of earning a living by pursuing a passion and intellectual fulfilment are luxuries

exclusively available to a minority. On the other hand, there is a fear of decision. The fear of taking a risk. The fear of change. The fear of a mistake and possible regret.

During my teenage years, I've always wanted to be a psychologist. After finishing secondary education in Germany, I applied for psychology at all possible universities—and wasn't admitted to a single one. I was frustrated, but in order to move forward, I suppressed the negative feelings. I pushed the thoughts away and decided on another subject that really interested me: Human Geography and Cultural Anthropology. I hoped to find some psychological aspects in these subjects. From the beginning on something felt off. I found things interesting, but nothing captivated me. I didn't really identify myself as a geographer, and in retrospect, I've always known I wouldn't even want to become one. I didn't realise it back then, but I was scared, scared of where doing something that I was indifferent about would lead me to. Scared of never feeling like I'm in the right place. Scared of always feeling a little less a geographer than my peers in my geography studies. The figural rift between me and the others who were passionate about it was palpable and always present. I felt fake and as if I were a pretender—and I did pretend. I was paralysed by my fear of admitting that I was absolutely wrong. That I had taken the wrong decision and that I would never bring up any true passion for the field. I was fearful of an uncertain future in which I'd always be frustrated and unhappy. I was unable to admit this because I didn't know what to do, because I couldn't even know whether my attempts at changing the situation would ever be successful—it might have been possible that I would never get admitted into a psychology programme. I was anxious because it might never happen. And I would have to find a way to accept the situation and find something else.

In addition to the fear of admitting I was wrong, there was the fear of abandoning something I had poured a lot of time, money and energy into. In our society, we are educated to not just give up. What's valued is pulling yourself together and finishing what you have started. I chose it and I'm responsible for it, so I have to account for it. For me, this meant keeping on—all the while hating every step of the way and denying myself and fearing the future. So, there was a fear of being judged, of doing something that's not approved.

I had visions of another life and dreamt about how good life could be if I could only get rid of feeling wrong and hopeless and scared. Whenever I was frustrated with what I was doing—which was all the time—I escaped from reality, I fantasised about what my life would look like if I could only pursue my passion. I still didn't even dare to realistically think about how I could make it possible. I was afraid of getting things going. Now that I trace things back, I had written about it in my diaries, reading between the lines I've been preparing for this since my early days as a university student. And then, I leapt and passed the threshold. I sought out information and I was eager to find a solution and made a concrete plan. As if by accident I came across some people who had taken the exact step I had taken. I met a particular someone who inspired me. That person might not know it and never will, but seeing that it was possible, I felt reassured: I was not the only one. I'm not wrong. I'm not defective. Finally, I felt a little bit freer, I felt some hope and I

became more and more excited for the future and what it might hold. My fears rose again and again, because the higher my aspirations climb, the deeper the fall could possibly be. It felt dramatic to me, like everything was at stake—and the way I framed it, it was. I imagined that this moment was my last shot at it, a make-or-break situation.

Besides the psychological issues, there were the bureaucratic, financial, and social issues. The fear wasn't only located within, but also directed outwards. I had to tell my family, I had to tell my friends, and I had to tell my fellow students. In hindsight, they all say they saw it coming and had known it somehow. Also, it required a lot of calculations: I had to take a financial risk. I had to think about the fact that I won't be able to sustain myself financially until I'm 28 and that I wouldn't be able to start a family until my thirties. My evolution would be postponed and I was scared of losing the alignment with my peers, of being estranged from my friends who are about to enter the *real* world by getting into the job market and starting families. I knew that I might have to sacrifice a lot by only being able to start these kinds of things five years later than I had planned, and that's a risk—but the incentives of what I could gain are so much higher. But I came to the conclusion that it's worth it. There was no other option for me because I imagined that the only alternative was being unhappy forever. This kind of view might seem dramatic, looking at it from the outside. I had to make things seem this dramatic and black-and-white in order to make changes happen.

The interesting part about it now is—was it all an escapist fantasy? I knew that I projected so many hopes into this. I knew that I wouldn't magically be fearless and happy forever just because I was finally able to study the field I'm most interested in. Studying what I wanted to study wouldn't automatically grant me safety, fulfilment and passion. I was well aware of this and all the difficulties and the ordinary fears rising up again: Being good enough, fulfilling all the requirements and coping with stress, finding my way through the complex combination of keeping in touch with what one could call banalities, like earning a living and getting a real job one day, all the while focusing on the intellectual part of it: The wish to always expand my thinking and stay inspired and passionate. What I can say for sure is that I've been feeling as if I'm growing into a psychologist who can, step by step, learn to live with fear and go beyond it by taking a leap that's absolutely worth it. This step has made me grow, made me braver and most of all: Overcoming fear allowed me to start growing more into myself.

How did I go beyond? I faced my fears. The fears included telling my parents and my family, my friends and my fellow students. I was afraid of being judged or seen as a failure. When I did tell them, of course they had their doubts but in the end, they understood and supported my decision. I had financial fears. How could I afford another cycle of higher education? Universities in Europe are practically free, but still, I wouldn't be able to have a full-time job and sustain myself for another five years. I calculated and decided that it's worth it and that somehow, I would manage if this is what I needed to do. I realised that the only thing I really should have feared is working against myself by continuing an educational path I don't want to follow. A system that welcomes and fosters alternative career paths would

make this kind of decisions easier. Even though in the end everybody approved of my plan, in a way there was an obstacle. Many young people might be hesitant because of these fears when in fact, that's not necessary. I'm not implying that getting a second Bachelor degree or changing education and career paths should become a norm—not at all. But for some people, adjustments are necessary. As long as these decisions are frowned upon, many might be hindered and stay in their wrong paths because of their fear of changing.

Sarah: Fear and Authorities

Once I had a professor who liked to play out his authority in a negative way. He would demonstrate his position by making sarcastic jokes about us students during his lecture which could be understood in two different ways. This was very deeply hindering for me as in the end I did not feel encouraged anymore to participate in the class nor seemed anyone else. I hated the atmosphere which was created through this, in my opinion, unprofessional behaviour. I feel that this behaviour increased the fear of being vulnerable, when I constantly must think about how I phrase something so that I do not give him a reason to let us all appear as the worst and most ridiculous students in the world. It created a blockade, because I was afraid to say something wrong and be the next reason for the next sarcastic joke. For me these methods have nothing to do with fun, but with an authority who has no sense for pedagogic methods.

Unfortunately, professors who like to live their authority in a negative way still exist. They are taking every situation to demonstrate their power and rank in the hierarchy. It could be through small things like the emphasis on formality in communication or the distance they show in their attitudes, for example, implying when one tries to approach them, “you are an unexperienced student, please do not waste my time”. Taking into account that I am a rather extroverted person who has no fear to speak up in front of people, I can only imagine how hindered shy students must be by the dynamics just mentioned. It is a way of showing that the professor is above me and that he had to underline his importance. This creates fear of being suppressed or being put on an inferior level. This fear is threatening my self-image and self-confidence in the sense that I am seen for less than I am or could be, and I must accept this image projected on me several times a week in the worst case. But most of all, it is the ambivalence of having to attend the course and participating as much as possible while feeling a total dislike of doing so creates a fear of suppression, the fear that I have no choice. If I want to finish my studies, I am forced to deal with this ambivalent situation, because otherwise the fear of suppression would become a fear of failure. This fear of failure could arise through believing the negative statements or because of not attending the classes and therefore feeling less prepared for examinations. Moreover, when the power differences are being emphasised, this impedes the interactions between professors and students. I am afraid because my motivation to learn suffers from the way of how someone tries to teach. It suggests that a lot of problems like fear of a course can be modulated by a

respectful atmosphere and treatment by an authority. I would claim that this atmosphere is one main reason why I would study for a subject or not.

The first shift in my rather negative authority perspective caused by these attitudes from professors appeared when I applied for an internship. Through this contrasting experience, I learned how effective it can be when there is a feeling of faith which is sent out from the professors towards the students. Moreover, we were treated as equal in every aspect and this created a lot of productive and motivational atmosphere. Now, it was enjoyable to spend time with our supervisors. We would even go and meet for a coffee discussion concerning our projects and get asked to participate in projects which we would have never imagined to be capable of. This great boost of self-confidence was a valuable milestone for me to keep believing in myself and build wisdom and knowledge sustainably in a way that will stay for the long run. It has nothing to do with the examination preparations in which only grades define how good a student is. It goes beyond all this. It is a respectful acknowledgement of young minds which are on their way of constant development and growing. It makes me feel as if I am not only a number in the system but that my contribution as a student is valuable. In addition, this feeling of acknowledgement and tolerance will come back from the students as a thankful attitude towards their supervisors. The helpful effect it can have is that I had the feeling that the supervisors are on the same level as me in the hierarchy. This acknowledgement created a feeling of trust that I could talk to the supervisors if I had a question or problem and know they would try to help me. Furthermore, it cheered me up, because they always gave me the feeling that they believe in my skills. This small difference motivates me to fight for this class validation because it creates a commitment which is effortless and forms naturally. It lets me bring out resources to learn more because I am willing to show the professor that I am interested in the course. It feels as if I want to give back what they give through showing what I am capable of. Relating this to the dealing with fear, it modulates the perspective I have towards a project and transforms the fear to a challenge to fight for. I often try to understand the professor's perspective. His or her own confidence and attitude are a big factor in the relationship with students. If the person of authority is self-confident enough and trusts in their ability to be a leading role model, students will react to that and will want to fulfil what he or she asks for. It's a bidirectional relationship of trust and respect.

Going beyond the curriculum means to be able to stay human when in a powerful position. Considering that humans drive to demonstrate power and leadership, it is important to reflect in which way the power should be used. Is it in a way in which the focus lies on the transfer of knowledge? Or is it done in a fearful way in which the authorities need to remind everyone how big the differences are between them and their students? Course evaluations in which students rate the course and professors are a first step to find a solution for equality. Another possibility could be unannounced tests to supervise their way of teaching or coaching options to teach professors better cooperative and teaching skills.

Overall, I am thankful that I could experience the motivating communication professors would use towards their students. The chance to go beyond the

curriculae emerges from using positive teaching mechanisms which create a comfortable as well as stimulating atmosphere for everyone in the class. I wish there were more professors which take these issues in a more tolerant way.

Jennifer: Positive Aspects of Fear

At the end of the last semester of my Bachelor studies in Psychology I had the stress of my life. I had only two weeks left to finish the written part of my Bachelor thesis, but I hadn't even really started with writing as my whole semester was way too packed with work for all my other courses. Even though I was aware of the massive work load I had to handle that semester and had had a good time management, I was confronted with accomplishing the seemingly impossible task of writing a Bachelor thesis within two weeks. Of course, I didn't only feel stressed, most importantly I felt fear. I feared my own failure. I feared the failure in something I so badly wanted to ace. I feared the feeling of my own disappointment as I knew I wouldn't be able to meet my expectations. And I feared to disappoint my supervisors as I knew they expected me to ace it as well. However, I am also a very proud person that does not like the idea of giving into my own fear. So, I came to terms with myself that I would not be capable of perfectionating my Bachelor thesis within two weeks. I knew that I had to lower my expectations, but still, I wanted to give my best to make my failure seem as little as possible. Thus, driven by my own fear of failure, I pulled myself together, turned away all negativity, and made possible what once seemed impossible.

Education without fear—is that even possible? I would say no. With every examination you take, every essay you write, and every grade you receive, you most likely feel fear at least to some extent. That's natural as you do not want something unexpected to happen to you, e.g. receiving a bad grade even though you studied a lot. I guess that because of this fear you also automatically feel stressed. To put it in other words: Fear produces an associated stress response, and the greater the fear, the more dramatic the stress response. For example, during these two weeks of intense writing on my Bachelor thesis, I more than once felt like it was just too much, like I couldn't handle this anymore. My thoughts were going crazy, I was hyperventilating, and I had a panic attack. My fear of failure was so overwhelming that I felt a dramatic stress response in the form of panic attacks. Thus, fear could even be seen as a meta-level built upon stress in the sense that I had fear of failure and fear of stress (see Bion 1997). However, I was also always able to calm down again by rationalising the situation and to keep up the work on my Bachelor thesis. Therefore, my experience has taught me that fear does not only imply negative connotations. In fact, fear may even drive you to surpass yourself as described in the example above. Fear has the power to paralyse you just as much as it has the power to push you to excel your limits and to get the best possible performance out of you at a specific moment ("fight or flight"). But in which situations does your fear make you "fly" and when does your fear make you "fight"? I guess that fear makes you "fly" or paralyses you when you tend to overthink the situation, when you are overly cautious, and when you allow your fear to obsess about risks. This is what Janet (1927) calls "la peur de l'action/the

fear of action”. But in my case, my fear of failure made me “fight”. I refused to let my fear stop me from taking action, from moving forward by taking control of my emotions and the situation in general. I knew I had the competencies to write my Bachelor thesis, of course, preferably in a much longer time frame, but irrespective of the given time frame I knew, in principle, I was able to do it. I knew my psychological and physical limitations, and thus, I was willing to accept my decision to take action and write my Bachelor thesis as well as the outcome that would follow this decision. Of course, this did not actually make it easier or made it less work for me to write my Bachelor thesis. During these two weeks, I had a lot of inner and external obstacles to tackle, but in retrospective I can say that I most certainly learned a lot about my strengths and weaknesses. I also feel like I am mentally stronger now and I have grown tremendously. And all of this because of my fear of failure? Well, to be honest not only. I decided to use my fear and turn it around to make something positive out of it which requires, let’s say a specific kind of bravery, a bravery to take action instead of giving into my fear of failure.

In the same line of thinking, out of fear, habit, and obedience to authority, many students prefer to stay within the curriculum. It may be much easier, for example, to write your Bachelor thesis within an already existing project than to come up with your own topic and go through with it. I decided to write my Bachelor thesis about a topic I was interested in rather than getting involved in a project of my university even though this meant that I had to put much more thought, time and work into my Bachelor thesis. However, I was willing to accept this and thus proved to show this specific kind of bravery again. This bravery to take action allowed me to go beyond the curriculum as I can write my Bachelor thesis about a topic I chose while still staying within the curriculum of having to write a Bachelor thesis. As I am taking the “risk” to go beyond the curriculum, I am up to challenge myself while learning more about myself and growing a stronger personality. Therefore, you could say that this bravery allows you to ignore what everyone else, what society is expecting from a “perfect” student within an achievement-oriented society (meritocracy). It’s a bravery that allows you to strive for your own personal goals.

With these thoughts in mind, I am wondering how to encourage students to show this specific kind of bravery to go beyond the curriculum in spite of oneself? Or how can students take action despite of their fear? Is it that we need to show more confidence in our competencies? Is it that we need to stop overthinking and just take the risk? Also, why does the system support students following the curriculum instead of encouraging students to go beyond the curriculum? And most importantly, why do we automatically associate fear with negativity instead of seeing it as an opportunity, as a challenge leading to personal enrichment?

The Fearful but Resilient Positions: What We Share

The following will briefly summarise the five different themes of fear before looking at what they have in common.

Franziska elaborated her fear of decision. Each time she is confronted with a subjectively important decision in her professional pathway, she perceives a fear of choosing the “wrong” way, the fear of a possible later feeling of sadness or regret. This leads her to rather stay in indecisiveness and inside the *curriculae* as this seems the easiest and safest behaviour for the time being. But, of course, it hinders innovations, emergence of new knowledge and personal growth. Only through offers and encouragements to go beyond the preformed *curriculae*, Franziska acknowledged her fear, learnt to deal with it and discovered a new world of knowledge.

Lina described how fears are caused and modulated not only by one’s own biography and personality, but also by a system in which the person moves. Her specific own fear of deciding and limiting herself is typical for a certain subset of people in similar positions as Lina’s. Through the support received from her parents, peers and professors in seeking out new opportunities, Lina was able to go beyond the curriculum within her current path and accumulated more resources to help make each new decision with more confidence and work through different fears.

The fear Marisa dealt with when considering obtaining a second Bachelor degree had internal and external aspects. Internally, she was afraid of taking a wrong step, she was afraid of failure, and admitting that she was on the wrong path. Marisa was afraid of being too old when finishing her second study cycle and feeling out of touch with her peers because her age doesn’t match her current position. Externally, Marisa feared being judged by family, friends and the future job market. All those fears were present in the decision process—once she had taken up the new studies, the fears diminished and she found them smaller than she thought they were before.

Sarah introspects how authorities are modulating the aspect of fear. On the one hand, Sarah experienced many positive mechanisms about the attitude and communication authorities use such as playing out their power and producing a feeling of inferiority and how these were experienced during her time as a student. On the other hand, Sarah described a case in which these mechanisms weren’t present so that a respectful, equal and positive communication, and attitude between students and professors was built. She also explained how going beyond the *curriculae* for her means to concentrate on the positive mechanisms authorities use, being able to evaluate lectures, and being resistant towards negative mechanisms. Moreover, the awareness about the dynamics of fear which can be triggered by the authorities must stay in mind.

Jennifer contemplated on positive aspects of fear. In her introspection, Jennifer described how fear can paralyse you as well as it can push you (“fight or flight”). Her fear of failure allowed her to surpass herself which resulted in personal enrichment. She continued that the same principle applies to going beyond the

curriculae. Among other reasons, fear most likely results in students staying within the curriculae. However, students going beyond their fear and therefore beyond the curriculae take the risk, take up the challenge leading to personal enrichment. Thus, she asked how this specific kind of bravery to surpass your fear can be fostered.

Though we all seem to perceive various nuances of emotions concerning our university education—illustrated by our introspections—there is one over lasting feeling: Fear. This fear might be bolstered by different themes, but in general, on a meta-level, it is what we share. Therefore, we suggest fear to be seen as a meta-level feeling built upon each of our five themes (Bion 1997).

Curriculum—Need to Go Beyond

Even though we all experienced a different form of fear in different contexts, all five of us still went beyond the curriculae. Previous chapters in the present book such as Clegg et al. (2018) started developing the problems in today's curriculae.

Clegg et al. (2018) have already discussed their attempts at widening the curriculae within the current system. They describe the tendency of societal and with them also educational systems towards principles of industrialism and away from sustainability. They elaborate the tensions between wanting to teach their students to develop critical thinking skills and own ideas, skills which they consider valuable and sustainable, and having to teach them to follow rules, acquire a certain set of practical skills such as the SPSS software program, and following a certain industry standard. Clegg et al. (2018) describe how they find a way out of this moral dilemma finding a middle way and trying to incorporate both aspects, thereby going beyond the enforced curriculae while staying within the structure.

Furthermore, the following chapters by Tanggaard (2018), Smertenko et al. (2018) and Eckerdal (2018) elaborate some further considerations needed to answer the question how students may be able to go beyond the curriculae. Tanggaard (2018) proposes an apprenticeship model which would create the same atmosphere as a start-up with local autonomy, full participation among students and teachers, and productive learning leading to an intense and creative research environment. Smertenko et al. (2018) appoint E-learning and international migration of young generations as the two driving forces of the sixth technological wave. Eckerdal (2018) suggests dividing examinations into assessing either knowledge and skills combined, or skills alone as the most fruitful future education examination form. Therefore, Eckerdal (2018) demands that universities need to fit their education programmes by changing the existing examination system accordingly so that students are intrinsically motivated.

Will projects such as augmenting the creative capacity in the form of an apprenticeship model, technological developments like E-learning, and/or a changed examination system really succeed at helping students go beyond the curriculae in the future?

What Kind of Curriculum Would We Need—To Go Beyond It?

Based on our personal experiences, we feel that the following is needed for students to go beyond:

We feel like students should be encouraged to take up offers for already existing extracurricular activities made by their university or municipality as these might be valuable experiences for students helping them to find their own specific curriculum.

We also suggest employing a mentor and support system with comprehensive and constructive individually given feedback and orientation for each student, as we think that would lead to better self-knowledge, estimation and trust in one's own skills, capacities and possibilities as well as easier decision-making. This would also mean that students and teachers work together more closely and teachers and professors enable a safe space for students to work on their less present skills including potentially making mistakes instead of only supporting the already optimised set of skills of students.

In the same line, we believe that the latter point would result in needing less standardisation in teaching methods and assessment, but instead using a greater variety and complexity of assessment methods.

In addition, not only teachers, but also students should have the opportunity to give feedback to their teachers allowing to control teachers and their methods to some extent as well as reducing the teacher–student hierarchy. This could also be done by fostering a fruitful communication and interaction between teachers and students. Another important element would be to acknowledge and address the existing fear within the university context to work out constructive ideas and measures to cope with one's fear.

Generally speaking, a higher degree of flexibility of the curriculum within and between studies would allow the preservation of student's individuality. This means that we need a university context that acknowledges alternative paths, interdisciplinarity and individual interests, that embraces innovative ideas and students' creativity. However, the assessment of student's knowledge and skills with respect to standards for later employments need to be guaranteed with the help of *curriculae* that are still structured enough.

General Conclusions: Towards a New University of the Twenty-First Century

A modern, contemporary university of the twenty-first century should accept individual and alternative educational and career paths. The Bologna process at the beginning of the twenty-first century has already tried implementing changes and opportunities in order to adapt to contemporary needs such as the increasing need

for mobility. However, our experiences suggest that this transition is not running smoothly. There are still obstacles, and the system is not yet significantly more open and free—it is merely an adaptation to the neoliberal economy and not a service to young people in education.

This cumbersome transition is easily depicted through our introspections reflecting on our subjective experiences with fear in a university context. Based on these different experiences with several forms of fear, we can conclude that fear within higher education is omnipresent. However, the existence of this fear does not imply that going beyond the curriculae is not possible. As we have shown in each of our introspections, this “going beyond” can be achieved through a variety of mechanisms. Incorporating the considerations of the chapters that will follow this introductory chapter as well as our own suggestions for a revised curriculum, a new university of the twenty-first century will hopefully help students go beyond more easily.

Nevertheless, there are some big questions that arise: Are our suggestions for a curriculum that enables students to go beyond even feasible in today’s society structure? To what degree is it really possible to optimise or rather revolutionise the education system across different countries, cultural spaces and historic realities? Would the changes we propose improve the lives of the majority or just an already-privileged minority? How much of the change can be bottom-up (starting from student or professor initiatives and individual efforts), and how much needs to be top-down (caused by governmental or international changes in laws and funding).

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Chapter 22

Creativity in Higher Education: Apprenticeship as a “Thinking Model” for Bringing Back More Dynamic Teaching and Research in a University Context



Lene Tanggaard

Many find themselves feeling caught between the push to promote students creative thinking skills and the pull to meet external curricular mandates, increased performance monitoring, and various other curricular constraints.

Beghetto and Sriraman (2017, p. xi)

How can creativity be taught as part of higher education when the push to perform on certain standards increases? Can students develop their creative capacity as part of their university education under the current conditions? Does the development of creative capacities among students require new kinds of technologically mediated learning per se, or does the “traditional” lecture still have a legitimate place in a university striving to support the development of critical, creative thinking and action among its employees and students? Interestingly, some centuries ago, the traditional lecture was not a hindrance to development in sciences, but of course it must have been dependent on the students and their motivation? These are some of the questions in this chapter. Or to phrase it more precisely: *What is the role of creativity in a university context and does the current condition leave room for the development of this capacity among students and their university teachers and professors?*

The chapter is based on a reading of the literature on creative learning, and the idea of apprenticeship as a kind of “thinking model” for bringing back more dynamic teaching and research in the university context. Furthermore, I use the opportunity to reflect on my own experiences of being a university professor, a university teacher and an academic with a keen interest in creativity as a research topic and as a human practice. My interest in creativity as a research topic began when I did my master thesis with a focus on the learning processes among product developers in engineering (Tanggaard 2000). What surprised me back then was the

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anxiety among the engineers that they would one day lose their creative capacities which they found were central to their professional work. I then did my PhD and as part of this I focused in particular on what I back then termed innovative learning trajectories among apprentices in vocational education (Tanggaard 2006, 2007), and then I did my first book on the topic of creativity and learning in 2008 (Tanggaard 2008). Since then, I have followed the interest in creativity in various publications centred around the concept of “fooling around” and the need for a focus in research on the process of creativity (Tanggaard 2013, 2015), creative identities (Glăveanu and Tanggaard 2014), ideational pathways (Tanggaard 2015; Tanggaard and Beghetto 2015), and lately I have been part of voicing the need for a new vocabulary in creativity research (Glăveanu et al. 2016) and creativity as a tool for Ph.D.-students wanting to survive in academia (Tanggaard and Wegener 2016).

In the first part of the chapter, some aspects indicating the popularity of creativity in the current societal context will be described and compared with a current “diagnosis” of the conditions for creativity in the contemporary university context. I will then shortly outline what I see as my own conception of creativity and move to the analysis of apprenticeship as “a thinking model” for bringing back a more dynamic teaching and research environment in the university context. In this somewhat strange sense, the movement backwards to an old organizational form such as apprenticeship is considered a vehicle for creating more dynamic, loosely organized teaching and researching milieus supporting the development of creativity among its students and employees.

Creativity Is Here

Currently, we see a considerable interest in the popular culture, in business and increasing also among academics, in the subject of creativity and related concepts such as innovation and entrepreneurship, which is seen as the keys to solving a raft of complex problems, whether individual, social or global (Beghetto and Sriraman 2017; Glăveanu et al. 2016; Tanggaard 2013; Glăveanu 2014; Sternberg and Lubart 1995). It is hard to find anyone who disagrees with the notion that we should be ensuring the continued survival of the world through human creativity and innovation (e.g. through the development of new smart systems in the field of energy technology, more intelligent conflict resolution tools, health-improving measures). It is also claimed that we must be more astute and organize ourselves better on the job market and in the public sector. Citizens and customers, from healthcare seekers to parents looking for supportive schools, from shoppers to visitors of “experience parks”, are demanding ever more exciting and service-oriented products (Tanggaard and Wegener 2016). In the light of these changing times, creativity researchers such as Csikszentmihalyi proclaim that creativity is “no longer a luxury for the few”, but rather a means to ensure growth and continued welfare (Csikszentmihalyi 2006). This is all well and good for the companies and organizations that understand how to be astute and adaptable in markets where there is

growth, but there is an impending danger that these words will quickly become empty signifiers and, in the end, useless for university teachers and professors interested in developing the creativity of students and themselves. So what can be done?

In his book “Out of Our Minds”, Ken Robinson describes how the world spins faster and faster which is why we are in need of creative people, e.g. people who can think creatively, communicate and work in teams and who are flexible and quick to adapt (Robinson 2011, p. 2). To be sure, to give students in higher education the opportunity to develop such creative competences, we must provide learning situations and teaching environments that stimulate and facilitate this development. However, it is a very puzzling question, seen from my point of view, if this requires that we move forward, backwards or both? Trained in cultural psychology, I know that: “No future desired state of affairs exists in the present, yet human action can be driven to that imaginary future” (Valsiner 2014, p. 287). It means that we always work within the *liminal* space between: (a) what has already happened (the “past”), which can be reconstructed in different creative ways but has anyway a condition of “reality”), and (b) what has not yet happened (the “future”). Besides, future can take several potential forms such as what “can be”, “cannot be”, “should be”, “should not be”, “is ought to be”, “must be” or “must not be”, introducing a moral and normative dimension in relating with the uncertainty of next moment.

The thing is that we are very often faced with the kinds of arguments embraced by, for example, Robinson in the above that traditional ways of teaching (where traditional is often seen as synonymous with students being in a passive role as consumers of knowledge) do not work anymore. We need more engaging, active kinds of teaching, an argument often voiced in, for example, the literature on entrepreneurship education in a university context (Neergaard et al. 2016). However, a historical perspective on university teaching will easily show us that university teaching did not equate with passive knowledge consumption just a decade or two ago (Zuckerman 1997; Kvale 1999). Inspired by the research done by Zuckerman in the book “Scientific Elite” involving case studies of 92 American Nobel Prize winners in physics, chemistry and medicine, Kvale (1999) notices how more than half of them (48) had worked as postdoctoral researchers or assistants for one or more researchers having received or being about to receive the Nobel Prize. Also in Europe, Nobel Prize winners have strong genealogical tables with, for example, Niels Bohr having worked in two laboratories of Nobel Prize winners and later seven prize winners consulted his laboratory, including his son Aage Niels Bohr who received the Nobel Prize in 1975. Kvale describes how they worked in the laboratories in an apprenticeship-like organization involving learning in practice, learning as identity formation, without formal “traditional” teaching and with assessment in practice as key. As the number of students was fewer than today, the teaching or lecturing that took place in the universities back then would approach much more an apprenticeship-like situation with students in the role as co-producers of scientific results and knowledge (Kvale 1999). It was a less bureaucratic, less formal and a more pragmatic, subject-oriented kind of productive learning as we recognize it from studies on apprenticeship learning (Lave 2011).

So what is actually meant by moving forward and progressively question the “traditional” ways of teaching in a university context?

In this chapter, my basic point of departure is the awkward one that universities today will benefit from a more apprenticeship-like organization if the ambition is to increase the quality of creativity among students and teachers. This is what I term “moving backwards” which in this sense is equal to moving forwards. We can learn quite a lot from the older apprenticeship-like design of the university and take up the most beneficial parts of this in the current situation where many university employees feel that they are suffering from massive overload of too much teaching, too few teachers and too many students (Fullick 2012). One hypothesis is that an apprenticeship model would create a kind of start-up entrepreneurial spirit in the university with a lot of local autonomy, full participation among students and teachers, productive learning, and it would form a very intense and creative research environment. I will develop this point further on in the chapter, but let us delve a bit on the research indicating what kinds of learning conditions are needed if students’ creativity is to be developed.

What to Do if the Goal Is Creative Teaching and Learning?

In much research on creative learning, we are taught that for creativity to develop among students, this requires that they are in a very active role as students. Davies et al. (2013) show in a review study of more than 200 research papers on creativity that there is a reasonable weight of research evidence to support the importance of the following factors in supporting creative skills development in children and young people: flexible use of space and time; availability of appropriate materials; working outside the classroom/school; “playful” or “games-based” approaches with a degree of learner autonomy; respectful relationships between teachers and learners; opportunities for peer collaboration; partnerships with outside agencies; awareness of learners’ needs; and non-prescriptive planning. The review also finds evidence for impact of creative environments on pupil attainment and the development of teacher professionalism. Compared with the earlier descriptions of apprenticeship forms of learning, this sounds very similar to the characteristics often described here, e.g. productive learning involving a subject matter or a concrete task, consequential feedback, learning outside the classroom situation, peer collaboration and partnerships (Tanggaard and Juelsbo 2015; Lave 2011, Nielsen and Kvale 1999; Lave and Wenger 1991). The latter one is the most important one, referring Lave and Wenger: “*There is anecdotal evidence (Butler personal communication; Hass n.d.) that where the circulation of knowledge among peers and near-peers is possible, it spreads exceedingly rapidly and effectively*” (Lave and Wenger 1991, p. 93). However, in the current context in universities, what we see is different when knowledge becomes compartmentalized, each learner for oneself and tested according to standardized criteria using the grade system as the ultimate master. What Lave and Wenger suggest is quite the opposite

with a network of knowledge proliferation and innovation beyond uniform criteria, but related to the task at hand. In this case, the value of the circulation of information among peers suggests that engagement in practice may well be the condition for the effectiveness of learning.

Simonton (2013) maintains in an article on teaching creatively in a university context that we have to be concerned with the following two aspects:

- (1) Ensure that, in any situation where the aim is for students to learn something, something unexpected, surprising and exciting happens. This requires that we instruct students to pay attention to surprises and let them improvise on that basis rather than recording it as an “aberration”.
- (2) Ensure that pupils are given the chance to “[learn] by doing” as often as possible. This involves by default creating efforts that go beyond models, maybe through “errors” that turn into improvisation.

Simonton writes in the article that, during the course of psychology studies and creativity testing, he always allows students to try a test themselves. This gives them the “hands-on” experience that constitutes an excellent basis for theoretical reflection. This possibility refocuses learning on producing expected results to the person’s relating to that production, e.g.: “It was perfect, but I’m not yet satisfied”. Simonton also incorporates surprises into his teaching practice, for example, by wearing a funny shirt or saying something unexpected, which he says always wakes students up. However, this will of course only create a possibility for creative learning among students if this wake-up call becomes channelled to some constructive move, and if not, they go to sleep again and a funny shirt can become habituated too, as it sometimes happens with all humoristic presentations.

Likewise, Peters (2010) has argued that teaching and learning activities that promote creativity require a certain amount of participant involvement, democracy, shared influence and co-ownership of learning (Peters 2010). Peters also believes that, in that respect, we have quite a long way to go. In many educational systems and training courses, students are commonly made passive. This has also been asserted in an interview-based study carried out by Wagner (2012). The study involved a series of interviews with young people who had already carved out a remarkable career for themselves (including an Apple iPhone product manager, a Web platform 3D designer with his own company and a footwear enthusiast who opted to give workers at his US shoe factory fair conditions—to name a few interviewees). Wagner writes that all these young people had apparently found success through following their passion, and they all had clear objectives for their lives and work. It was not always the case, however, that they had found it easy to fit into the existing educational system. Several of them had dropped out of elite programmes, and they all mention that they benefited from having teachers who dared to follow a different path and be different from the rest. For example, the interviewee who became a project manager at Apple explains that a decisive moment came when he met a teacher who, in contrast to the majority of teachers at the American universities he attended, was interested in REAL teaching and gave

students the opportunity to work on “real” problems within the lesson, practising a form of experimental learning. The challenge to these kinds of practices is that such a teacher in American universities could be viewed as someone not teaching, but only organizing students’ activities.

It is interesting that ordinary mass institutions of education appear to have trouble providing engaging types of learning activities. Guilford recognized this issue in his seminal lecture at a congress of American psychology in 1949, when he maintained that Western educational systems have problems providing opportunities for students to act creatively. The main problem, according to Guilford (1950), was that we often test students for their ability to give the correct answers to established questions (convergent thinking). However, we do not devote the same effort to encouraging divergent thinking, where the important element is the ability to act creatively. Divergent thinking means the ability to come up with novel thoughts, which diverge from the ordinary, as well as the ability to formulate questions that have not previously been studied. Similar problems have been highlighted by researchers and debaters in the creative field over the years (see Craft 2005).

My current point is that apprenticeship-like forms of organization of the university context and its teaching, with its combination of theory and practice and its significant emphasis on workshop teaching, may have the fundamental preconditions in place for developing students’ creativity. Perhaps, it is a matter of making this more visible and as argued in the beginning of the chapter—moving backwards?

Where to Go—Why Computers and Online Universities Are not Enough

As it is evident in the above, everyone wants to harness creativity, innovation and entrepreneurship—but, from a critical perspective, one can question if anybody really understands what these concepts mean. The American researcher Peters (2010) believes we are casting about for a solution when we use these words—but specific measures to harness these concepts, for example in connection with teaching, are often reduced to things like adding a few iPads and computers to classrooms. This may be a good start, aiming for a better virtual connection, but it should be obvious that it does not guarantee that students will become more creative, innovative or entrepreneurial. What is needed is for us to begin to fill out these words, to give them substance so that they can address the specific challenges that we face in certain situations. And added iPad may be used for empirical studies giving us a chance to collect visual material to a greater extent than before, but it may also in contrast pacify students. What matters is the considerate application of technologies and the decisions regarding their use.

Accordingly, if a few iPads and online facilitated learning do not make up the whole story about creativity in higher education, how can universities become sites for real learning and in the end steer the creativity of the institution and the students? What is needed?

Let me begin with a story. It is a very recent one based on my supervision and examination of a group of psychology students in the autumn and winter 2016.

Manualized Analysis or Thinking About the Empirical Material?

I'm currently involved as a researcher in an inclusion project anchored in the School Department in one of the biggest municipalities in Denmark. The inclusion project involves children with an autism spectrum disorder who are involved in a normal kindergarten class in a Danish school and are expected to stay in the class with their peers throughout the whole school period. It is an experiment and a kind of teaching and educational organization never seen in this exact form in Denmark. The basic principles behind the project have been developed by a team of American researchers and school practitioners, and we are trying to adopt and learn from their success in Denmark. As part of my role as researcher in this project, I have invited psychology students from my own department to do their graduate projects in collaboration with the team in Denmark. The aim of this is to give students some valuable experiences with working with partners outside the university and of course also to support the production of the empirical material for the evaluation. In this sense, it approaches a kind of apprenticeship with students involved in learning as part of producing a research-based evaluation of the project. As I have a lot of research projects and a management position at the university, I do not teach as regularly as I did just a few years ago, but when I do, I value the involvement of students, and I am always in search of valuable points of connections between my work and the teaching and learning with students.

However, this year, something stuck to my mind. The students simply reacted to my supervision in surprising ways. I advised them to carefully select their methodology and analytical procedures in accordance with the character of the empirical material and to wait a bit with the final decision regarding the actual procedure because I thought this would create the best conditions for them to think carefully about the project and their material and in the end allow them to develop creative ideas concerning the project. However, the students wanted to do the analysis of the empirical material using a manualized method, and they wanted to decide this as early as possible in the project period. While I encouraged them to spend more time thinking about the project and the first empirical material and then decide what kind of analysis to do, they seemed a bit locked in what they had been taught earlier in their studies. I, however, thought that a decision about the ways of analysis too early in the process could prevent us from seeing something new.

It would eventually hinder the potential creativity of their analysis. After some negotiations, they agreed to stay open a bit longer towards the final decision regarding the analysis. Throughout the project, they became very enthusiastic with the kind of open-ended and creative analysis they eventually did, and they ended with telling me that they felt “their creativity was coming back to them after years of doing what they were told by supervisors without really questioning this”. Their comments made me sad on behalf of my own institution. Could this really be true that we do not let the students question our supervision or where did their feeling of this “being held back” come from? The students ended with top marks and hopefully with an ability to perceive the world in a more open way respecting the qualities of the world and the concrete realities of the projects they are involved in. In a sense, this approaches my sense of research apprenticeship where students are taught a way of thinking and the craft of research. We applied a range of technologies; face-to-face meetings, online teaching, e-mailing, Skype, etc., but these did not in themselves constitute or cultivate the creativity among us. They were mediated aims in many different ways.

Another Story—To Read One’s Way into the Matter

In 2016, I am attending a conference in US. I’m attending and listening to a symposium with paper presentations done by a research group headed by Professor Patti Lather. Her work has been enormously influential in the movement today best described as post-humanist, feminist inspired, qualitative inquiry. As part of the presentation, Patti Lather suddenly says that she lets her students read work they do not understand. If they are to approach the perspectives of a particular theoretical approach, they are not in need of inner motivation or clear learning strategies. Instead, she asks them to read, and if they do not understand the text, she encourages them to read it yet another time. There is no way beyond the subject matter and the learning process is not dependent on initial motivation among the students. At least, the subject matter, the text, comes before the understanding, the motivation, the meaning and the metacognitive strategies among students. Some would definitely argue that this is a very old-school and outdated way of teaching, but Patti’s students, attending the conference and giving presentations themselves, say as part of their presentations that they believe this approach is the only one enabling them to become conversant with the subject matter, and they also believe that Patti is their guarantee that meaning will arrive as part of the learning process. In this sense, the professor acts as the confident exponent and guarantee that engaging oneself in the material is worth the effort. Instead of inner motivation, the relation to the professor and her trust in her students and likewise their trust in her drove the learning process forward. Trusting the mastery of the professor is the driver, with all the resultant risk that her mastery is inferior or out of date.

The above is an example of how the process of digging deep into a text, which may not initially seem interesting or understandable, can drive a learning process. A poetic example of this can be found in Elena Ferrante’s four books about the friends Elena and Lila in the 1950s and 1960s in Italy in Napoli. Elena, the main character in all four books, describes how she is successful in school without receiving too much help from her parents. After a visit in the home of her teacher,

where Elena is surprised and overwhelmed by the political and literary discussions seemingly flowing naturally across the table with food and wine, she decides to join the conversation in future beginning with simply just imitating the words heard at the table. She reads all the books in school given to her by the teacher, they get polished with use, and in the years to come, she succeeds with her strategy. She becomes a legitimate participant in the discussions and conversations in the community around the teacher.

It is very normal today to assume that the kind of learning Elena engages herself with is superficial and will eventually lead to an impersonal, instrumental and outer relationship to the material, but in the case of Elena this is actually her only way into a, for her, very strange and unfamiliar world. The move into the subject matter by way of imitation and reproduction of sentences leads to her understanding of the material. The seemingly superficial approach leads to deep learning, and there is no necessary contradiction involved in this. Of course, a superficial and reproductive approach leading to just staying there cannot be recommended. There is, however, nothing suggesting that you become creative without nothing something, so engaging with the material at hand seems to be key (see also Tanggaard 2013).

Content Matter as the Driver of Creativity

Accordingly, while there are good reasons to warn against superficial learning and aimless reproduction of a given material and also against the tendencies in universities to move towards a one-sided focus on performance data, there is just as much reason to warn against the current lack of content in the educational sector where more or less trustable prognoses form the ground for reforms of the sector, where pure, functionalistic models of learning prevail and where content is reformed and competence goals inserted instead (Rømer et al. 2017). The case is that if there is no one (a teacher, a supervisor, a given content, a text or a material) to point out in the landscape showing where the main roads are and where to hide or find short cuts, it becomes difficult to orient oneself and actually know where to go. The apprentice (the student) may end up catching blind roads leading nowhere. As the apprentices whom I meet as part of my PhD study on apprenticeship learning told me: “Surely, we would like to take responsibility for our own learning, but it is hard to see where to go if no one leads the way”. They preferred a kind of co-responsibility for learning, pointing at the need for a wall to play the bold against as long as one is not yet confident where to play (Tanggaard 2006). This does not mean that one should not warn against masters being too decisive that they know where to go, unable to teach and transfer their knowledge and competences to others (I guess we have all tried to be taught by someone almost unable to teach), but in the end apprenticeship as a thinking model for learning and teaching at the university does question the current idea that performance goals and individual learning strategies can drive a fruitful learning process.

The major take is that we learn by learning something, and we may even learn the most when we have forgotten that we are learning. Accordingly, meta-cognitive strategies may even stand in the way of learning and in the way of concentrating on what is learned (Tanggaard and Brinkmann 2008). There is nothing wrong with reflection over one's own learning strategies or with the development of meta-competences, but these empty or pure processes do not in themselves lead anywhere. On the contrary, participation in a productive community of practice as in apprenticeship learning situation often makes it very evident what is needed to learn and what kind of learning is necessary (Lave and Wenger 1991).

Discussion

As a researcher, I have long sought to discern a possible link between apprenticeship, situated learning and creativity. This was initially inspired by the 1-year field study among apprentices within the field of electromechanics, in which I developed the concept of fooling around to describe the concrete, creative activities among the apprentices. I saw how many apprentices were highly innovative yet also keenly aware of how much they relied on existing knowledge and learning from masters within the field (Tanggaard 2008, see also John-Steiner 1997 for the link between apprenticeship and creativity). However, as apprenticeship is sometimes accused of leading to imitative learning and passive copying of masters' work (which does, admittedly, also happen), it is uncommon to link creativity with apprenticeship, both in its metaphorical sense and in the concrete sense of learning from tradition. As with the iPad example in the above, the same tool can lead to both simple copying and/or improvisation dependent on their usage and the same goes with apprenticeship as a model for creative university teaching and learning.

However, this association could gain strength in a current university context. Indeed, we already possess well-known examples. Science is by definition a kind of creative resampling, based on quotations from other writers, scientists and philosophers moving this in sometimes completely new and fresh directions. As before mentioned, Aage Niels Bohr once said it: "Without the continual innovation based on the spirit of youth, science and art would lose its vitality. It is not only related to the fact that those who took up the fight have become old and must be replaced by new people, but the interaction between different generations is the dynamic process taking the fairy tale one step further. To constantly question our values and what we have achieved is needed if science and society are to stay healthy".¹ Likewise, Sawyer's 2012 book on creativity concludes that more researchers are now radically challenging individualist notions of creativity and radically distinct forms of newness: "*They reject the myth of the solitary creator, and they've embraced the idea that novelty is overrated*" (Sawyer 2012: p. 429).

¹<http://politiken.dk/viden/art4820603/Nobelprisvinderen-Aage-Bohr-er-d%C3%B8d>.

Likewise, apprenticeship as a model for learning, as it is voiced by Bohr in the above, work on the basis of elaborate social networks, often distributed across the globe or like the teams of very large size located in Cearn in Schweitzer land. A major breakthrough is here achieved as a collective effort, with the dynamics between the older and the newer generations as a vehicle.

All of this might indicate that we are shifting away from a Western, individualistic conception of creativity towards a more collective model. Implied in this may be recognition of the role of apprenticeship, seen as a collective form of learning with participation in the community of practice and with peer-to-peer learning as a main vehicle. Peer-to-peer learning makes it possible to avoid simple copying of models, and the uncertainty of peer inputs also challenges the organization of learning in textbook kinds of learning where every bit of content is chewed and controlled to the extent that the original research matter is almost unrecognizable.

In relation to creativity, this is an important shift of perspective. The British anthropologist Ingold (2000) stresses that all creativities feature a close relationship between continuity and renewal. In reality, he argues creativity is a form of “recreation”, and the creative process involves a continual relationship between past, present and future. In a similar fashion, the Swedish creativity researcher Lindström (2009) speaks of creativity as a reapplication of that which already exists, but not in the passive sense of just applying what is given in domain x to domain y . For creativity to happen, it requires a creative transfer of what has been done in domain x giving it a new form in domain y .

The main problem is maybe that we do not often appreciate creativity’s material foundations when we celebrate creative icons—inventors, authors, industrialists. We see them as lone individuals in a narrative of how their creations are solely the products of themselves or of inner creative sources. But this is not the case. Those who succeed in breaking through with a creative idea are those who are capable of contributing something new to society, perhaps in part because the product is sufficiently recognizable and builds upon tradition. Large companies, for example, are only creative if they discover new products for which there is actually a market. Similarly, an artist can only call himself an artist if his works are recognized as art by his peers and by the public (Tanggaard and Stadil 2014).

As the French sociologist Bourdieu (2003) stresses when analysing the origins of the artist, we should not underestimate the relationship between production and consumption. There can be no artist without a market. This is not just a matter of producing financial sales from products. It also represents a more symbolic recognition of the artist as an artist.

Above all else, we can challenge the idea of a radical distinction between the conventional and the new. One hindrance for the development of creativity in a current university context could precisely be a lack of understanding of the inter-relatedness of tradition and renewal. The Danish anthropology professor Kirsten Hastrup works from a similar understanding that creativity ought to contain both the old and the new, the recognizable and the unexpected, describing creativity “as a way in which we experience the new coming into the world”. She says:

Creativity is not radically cut off from the world (in that case, it would be regarded as a sign of madness), nor is it just a competent response to an anticipated result (this is the same as the ability to act). In order for 'creativity' to retain an independent meaning, it must cover both the unexpected and the recognisable, both the new and the anticipated.

A current performance-oriented and individualized university system where both students and teachers are measured on individualized parameters like grades, numbers of teaching hours and numbers of publications and citations can act as a barrier to an understanding of the dynamic between the current collective of knowledge and contributions from participants herein.

To go with apprenticeship as a thinking model and see this form of teaching and research organization as a way to a dynamic development of the university goes directly against the actual tendency where students are required to move quickly through their studies and teachers are expected to teach a higher number of students every year. The risk of this is that students and teachers develop a distanced relationship with resultant increasing gaps between the researches and the teaching contexts.

What we get is a teaching university and to a lesser extent a productive university with students as active participants in the research process. We do have productive universities around the world, but the current teaching model in universities does not necessarily support this.

My point here is to reconsider if a teaching and textbook university is really what was meant to be the best university model anno 2017 and to consider if, how, when and why apprenticeship might act as a thinking model for the ambition of ensuring the creativity of students, teachers and professors in the universities today. This is also an alternative to the digitalized online university often seen as the alternative to the current condition.

Online Courses as the New Black—Specific Demands for Creativity in the University Context

In the discourse on online teaching, the tradition of teaching in the university is often accused of being out of time with the new generation. The below link is an indicator of this trend. Herein, it is often argued that the new generation are not used to passive TV consumption, but to interactive media. Online courses with super professors are the new black, but why should thousands of students and one teacher be so distinguished as being the model highlighted as the most innovative in the current condition? Why do we celebrate this kind of arrangement? In this context, it is interesting to note that apprenticeship is emphasizing a much more dynamic organization with students as co-teachers and peer-to-peer learning as a main vehicle as mentioned by Lave and Wenger. Fullick (2012) describes how we have stopped discussing the sizes of classes and that people without much reflection agree that university teachers are lazy and poor communicators.

The solution, to get more creativity and more productive communities of practices in universities, is, to the best of my knowledge, not technology in itself, but considerate reflections on how to achieve the best combination of teaching approaches and methods in the concrete situation. What are needed are genuine learning, co-ownership, learners' engagement and productive communities of practice.

To be really provocative, this requires that our ideas of learning and teaching are set free and related more specifically to the idea of the university as such. If excellent research and disseminating of this to the broader public are the end goal of what we do, then it must be mandate to set disciplines and teachers free to find the best format for this and also to consider how students can be seen as resources in this. The division of teaching and research developed in the bureaucratic university is one problem, and the next is the compartmentalization of knowledge in modules and tested as individual competences. These are structures that need revision if the university is to survive in an ever more complex world and to fruitfully develop into a genuine social network of excellent knowledge, wisdom build on the past and meant to be developed for sake of the future.

Conclusion

This chapter has sought to open a discussion of how to achieve more creativity in the university context. Apprenticeship has acted as a thinking model in this respect, inspiring a move towards more productive learning communities of practices at the university. For students and their teachers to become more creative, they need time to engage in deep learning, to work on the edge of the existing knowledge and to close a possible gap between teaching and research. In the current condition, new technologies and more learner-centred ideas of teaching are often put forward as a solution to develop university teaching, but the approach in this chapter has been to suggest a move backwards, towards a more community-based idea of teaching and learning, with new technologies as assisting tools, but not seen as a solution to anything in itself. The apprenticeship model suggested indicates a shift back to acknowledgement of existing frames of references and mastery acting as the horizon on which to develop new ideas and practices. Instead of an empty idea of pure learner strategies and motivation, apprenticeship models believe in the energy found in being part of something bigger than our own strategy. In this sense, genuine productivity and learning can go hand in hand, challenging the paradox stated in the beginning of the chapter that creativity and productivity or performance work counter to each other. However, to work with both requires that teaching models are challenged with apprenticeship models and teachers and students are set free to find and organize productive communities of practice in the university context.

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Chapter 23

Beyond Examinations and Assessment: Pathways to Productivity



Rebekka Mai Eckerdal

This coercion [examinations] had such a deterring effect (upon me) that, after I had passed the final examination, I found the consideration of any scientific problems distasteful to me for an entire year. (...) It is, in fact, nothing short but a miracle that the modern methods of instruction have not yet entirely strangled the holy curiosity of inquiry; for this delicate little plant, aside from stimulation, stands mainly in need of freedom, without this it goes to wrack and ruin without fail.

Einstein (1949, p. 11)

Educational frameworks across the whole World share a ritual: examination. It may be presented as guarantee that students learn the prescribed knowledge, or merely demonstrate that they have earned their formal school certificates—in all cases, the framework of examinations constitutes a key event in educational institutions. This is why asking which criteria students are assessed by, what society wish to educate students for, and how to ensure validity, reliability, and transparency, is important. In this chapter, I explore and analyze the crossroad between examinations, goals, and motivation in higher education.

Power Roles in a Macro-level Perspective

Evaluations in the education context have throughout time been increasingly targeted as an important matter (Andreasen et al. 2011a, b). The purpose of evaluations is typically seen as either *formative* or *summative*. Formative evaluation is an evaluation *to* learn, whereas summative is *of* accomplished learning (Krogh 2011). It is the summative focus that fortifies existing social power relations in the form of examinations. When focusing on formative evaluations, educators' teaching is

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controlled—it is itself reflected upon through the next learning success (or failure). The gratitude of former students who return to their educator years after the studies are over indicates the evaluation of their success in life on the basis of what they once learned under the guidance of their educator. In contrast, it is the students who are controlled when using a summative approach—examinations concentrate on accomplished knowledge in the past as evaluated by the instructors in their role of social power.

The traditional unidirectional model of knowledge transfer in learning situations and examinations naturally foster inequality in certain power roles which have an impact on macro-, meso-, and micro-level (Jaspal et al. 2016). The macro-level of analysis is represented by societal ideologies and social representation, the meso-level is focused on the relatedness between the individual and various social groups such as student–educator, student–family, and student–friends, and the micro-level is the individual as she is confronted with concrete learning tasks. The explicit power to control and affect others’ actions is both a control mechanism and an important impact tool in a pedagogical sense. Besides the explicit exercise of power, Steinar Kvale (1970) discusses the suppressive and conformative function of university examinations (Jensen 1977b). This is seen in factors such as students being disfranchised by not having access to a written assessment of their own examinations’ performance. Explanations to why this opacity is kept include rejections referring to the workload it would demand of educators, and lack of trust in educators’ personal and professional integrity.

A macro-level perspective on the continuation of typical examination situations involves what Valsiner (2008) describes as “*an act of social intervention – by social institutions to control the processes of education. It re-focuses the issues of importance from the actual processes of becoming educated to that of social selection of differences in outcomes*” (p. 132). In this societal perspective, examinations are there for the sake of social selection, not for the benefit of learning, which is in line with what Kvale propose (Jensen 1977b). Kvale divides the functions of examinations into three groups: recruitment, pedagogical, and exercise of power. He claims that the most important function of university examinations is to serve as a conformative rites de passage to ensure university scholars loyalty to the ongoing societal structure.

But if examinations are about social selection, what are educators measuring at examinations then? Grading scales can be considered as systems aiming at making knowledge operationalizable, and at the same time clarify that when one is aiming at valid expressions of learning outcome, there is a linear connection between (a) complexity of the knowledge to be captured, and (b) more requirements for the evaluation design. This premise entails the ongoing debate concerning validity of evaluations (Andreasen et al. 2011a, b): what we are measuring versus what we are trying to measure. We may try to evaluate the person’s future potential but end up “measuring” the extent of currently mastered learning tasks that might not survive over time.

Power Roles in a Meso-level Perspective

In an examination situation, the educators are the ones who hold the knowledge and must decide the fate of the powerless student. This requires fixation of the social power difference. But students do possess a power (Zittoun et al. 2013): the power to resist. The subordinate students can neutralize, resist, or reorganize the knowledge thrown at them from educators, politicians, moralists, and other powerholders. Likewise, educators are in a predicament (Jensen 1977a) by posing a position between powerless students and powerful politics. Educators are not only responsible for exercising power over students; they are also responsible for administering bureaucratic power. This power is visible when both students and educators tacitly accept given structures by universities and society. Knowledge is power, and the powerful “system” is excellent at using knowledgeable personnel to practice their agendas while at the same time securing that these knowledgeable people do not turn against the powerful elite (Jensen 1977b)—this is why examinations are still necessary. As the students, the educators can resist demands commanded from “above,” but as for the students, this does not come for free. Progressive educators often find themselves in a puzzling situation (Hansen 1977) where one has to choose between scientifically based knowledge dissemination *or* teaching narrow, measurable material relevant for examinations. The risk of acting disobedient can have dire consequences for educators and students. Hence, educators stay with the familiar and verified, based on fear of the potential negative consequences—this inhibits renewal.

Grades damage the student–educator relationship due to the double role educators possess (Jensen 1977a). They are both representing power in examination situations and at the same time have no power over these absurd assessments. As one can imagine the shift from being one the same side as her students in everyday teaching, to suddenly becoming their judge at examinations is a trust brake which creates natural hesitation among students from showing what remains considered as “weaknesses.”

Power Roles in a Micro-Level Perspective

Each student develops differently through university examinations (Hansen 1977)—some get a confidence boost and others experience agitation and anxiety. Most importantly for each individual is, that they are not assessed wrongly (Thomsen 1977), since this can restrict their well-being and options when it comes to education, profession, and general choices in life. Therefore, it is not strange that traditional examinations call for students to hide their weak spots, instead of putting them first in order to learn more or to make the educators aware of how to improve their teaching (Hansen 1977). Grades, in this sense, are very powerful (Jensen 1977a)—they become an essential property of each student, and code how friends position themselves relative to each other.

Validity and Reliability in Examinations

What is tried to be measured, in the case of examinations, concerns validity content and predictability.¹ In order to ensure validity in examinations, specific objectives are typically set up for teaching so that the questions at examinations match what has been taught. Hence, learning to be tested sets constraints (Andreasen et al. 2011a, b, p. 7). By focusing on content, examinations could be a more integrated part of schooling and open up debates about connections between academic fields, the use of academics in society, etc. According to Kvale, this pedagogical use of examinations cannot happen as long as examinations are used as a selection instrument (Jensen 1977b)—until then, the objective of an examination is to pass the examination.

Jesper Jensen (1977a) illustrates how validity in university examinations is not to be granted as being high. Moreover, not only are examinations not measuring what we are trying to measure, but Jensen demonstrates that the reliability is low too. Reliability regarding examinations, i.e., how reliable ones' samples are, aims at making assessments of students' performances as accurate as possible—the transparency must be as high as possible. When students finish their education and attend job interviews, it is not clear what ones' grades cover. Thus, the transparency of examination grades is low due to the condition that they do not take relevant factors into account because these are not part of the “checklist.” There is no correlation between what is taught at universities, obtaining high grades and success at the job market, which altogether makes the reliability and validity of university examinations low (Elmholdt and Tanggaard 2007; Jacobsen et al. 1999). However, the whole value of university education is to build a base for further success in life.

Various Goals for University Examinations

Education examinations are an inherent part of contemporary educational practice. As Valsiner (2008) sets forward, issues concerning education cannot rely on a non-developmental ontological discourse where “what is education” is asked. Rather, we must turn to an epistemological discourse and focus on the way we know what education is. In other words, when researching educational practices, we must look into how the developing “what-is-becoming”² can be meaningfully directed. Valsiner also demonstrates that education is a constructive and

¹Content validity points to the degree of connection between an examination and schooling before exam. Predictive validity points to whether the examination can determine students further academic aptitude and/or profession.

²“When we characterise “what is” we think of “what-is-becoming” (in case of development) and—in case of education—how that “what-is-becoming” might be directed towards specific meaningful (for the directing agent) an outcome state” (Valsiner 2008, p. 132).

open-ended process, and that “*outcomes of educational efforts cannot be predicted – while setting the direction towards educational goals is the key to any outcomes*” (Valsiner 2008, p. 231).

Education at all levels is intertwined with individuals’ development, but as Maciel, Branco and Valsiner (2004) emphasize, “*the microgenetic processes within the teaching/learning phenomena are relevant if they make a difference in ontogeny*” (p. 114). That is, an individual goes through her life in A-B-C-... direction and obtain competences for activities (microgenesis) which becomes a part of her general life course development (ontogenesis) (Maciel et al. 2004; Valsiner 2008; Nielsen and Tanggaard 2011). Education as a dominating, violent discipline³ is looking for the right spots in time and place, where it can influence persons’ self-organization and self-defense as part of their ontogenetic development. In this process, education demands educators and students—none of the two can obtain their shared goals without one another, yet the power structure is in-balanced as unfolded above (Valsiner 2003, 2008). Sustaining this power difference by exercising suppressive power primarily over students and university personnel is, according to Kvale, a goal of power and control itself.

Goals of Learning

The emphasis on learning as a topic was made widely known by Edward Lee Thorndike in the end of the nineteenth century, yet today the meaning is still unclear. The process of learning “*is often seen as the acquisition of specific skills and knowledge by a person, mostly through specific interactions with the environment*” (Zittoun et al. 2013, p. 203). Human beings’ natural urge to pursue goals entails a cycle of intrapersonal and interpersonal communication. The intrapersonal side involves cognitive and affective self-communication and the interpersonal includes coordination of goal orientations of learner and educator. According to Maciel et al. (2004), learning is first and foremost a communication process where both student and educator construct new knowledge by socially guided semiotic construction, or as they put it: “*This is the meaning of social nature of human beings – constant renegotiation of personally set (but socially guided) meaningful goal orientations*” (p. 111).

Mutual modulation of personal positions is regulated not only through communication, but also metacommunication. Metacommunication “*refers to the quality of the interaction or relationship between the individuals (...), metacommunication is always active as a sort of interactive background for content communication*” (Maciel et al. 2004, p. 112). Metacommunication forms a base for

³Valsiner (2003). *Missions in history and history through a mission: Inventing better worlds for humankind*. The First Annual Casimir Lecture Studies in History of Education. Leiden University, December 12.

understanding what goals the other person has in a learning situation which is based on the creation and interpretation of communicative messages. An example: an educator communicates that it is important to follow the rule of being one hour early for examination if someone unexpectedly does not show up (verbal communication). While saying this, she shrugs a few times, looks over her glasses while making an exaggerated frown and a big smile (nonverbal metacommunication⁴). She ends off by mumbling, smilingly, that she would never do that herself since she would be rehearsing her presentation at home until the very last minute (verbal metacommunication). Thereof, there are so far two cycles in a teaching/learning process: the cycle of intrapersonal and interpersonal communication, and cycle of metacommunication and communication. This is connected by Maciel et al. (2004) in one basic mechanism of the teaching/learning process: *goal-oriented strategic modulation*. This process entails distancing of educators' positions (*I, we, I versus you*-positions) "*in accordance with the perception of the fluctuations in the personal positioning of the learner during the teaching/learning process*" (p. 112). This means that learning in an examination situation is regulated by how each person involved interprets the intrapersonal and interpersonal communication and metacommunication in both verbal and nonverbal forms. Thus, by matching the accurate amount of distancing, a student might actually learn something in an examination situation. However, it is the power roles which are socially designated that set the stage for the teaching/learning, which means that the normal negotiation of objectives (i.e., learning by living) is set aside in order to fit the reality of an asymmetric organization at examinations (i.e., living by (rote)learning). The right amount of distancing is limited in examinations which affect the capability to identify which learning occurs since this depends on which perspective the observer holds (Zittoun et al. 2013). In the context of university examinations, this is important because this implies that the educators will find only what they are looking for (i.e., confirming knowledge possession) instead of pursuing the goal of meaningful learning (i.e., shared knowledge construction).

In order to underline the impact, assessment has on students learning I draw on a strong point of Graham Gibbs (2010): "*Assessment makes more difference to the way that students spend their time, focus their effort, and perform, than any other aspect of the courses they study*" (p. 1). Gibbs writes about how assessment influence student learning and bring forward suggestions to how assessment can support student learning. In the 1970s, it was unexpectedly found by Snyder (1971) and Miller and Parlett (1974) that what was most influential for students in the North American context was assessment rather than teaching as was previously presumed. How students perceive demands from assessment systems dominate all arenas of students' efforts—both in how students make strategic use of their time and selectively avoid content which is presumably not assessed. Based on the

⁴Metacommunication can take form of both verbal and nonverbal behavior. Verbal metacommunication can be both complex and contradictory in terms of generating interpretation (Maciel et al. 2004). This may involve social competences such as humor, introspection, and decoding of social norms.

realization about “assessment over teaching,” Snyder (1971) coined the term “*hidden curriculum*” which refers beyond the formal curriculum to the “invisible curriculum” which serves as a source to succeed in education examinations. Once a student figures out just how little she has to do in order to reach her personal minimum criteria at an examination, she can arrange her time and activities accordingly (Gibbs 2010).

Later on, in 1974, Miller and Parlett created three categories arranged according to how students orient themselves to assessment-rewarding cues in teaching. The first kind of student is “*cue seeking*,” that is, actively seeking answers from the educators to what might be brought up at examinations, the second kind of student is the “*cue conscious*” who does not get out of their way as the “*cue seekers*” but still pay attention to important tips from the educator, and the last kind is the “*cue deaf*” where any guiding tips pass straight over their heads. By introducing these categories, it became possible to predict with high accuracy which students will get upper and lower grades (Miller and Parlett 1974; Gibbs 2010). As these other researchers became increasingly aware of the degree of influence assessment had on learning and studying, so did Marton and Säljö (1976, 1997) who introduced the three categories: *deep* (reading for meaning/intention to understand), *surface* (cope with course requirements with little personal engagement), and *strategic approach* (achieve the highest possible grade through time management and study methods) (Entwistle and Ramsden 1983). The categorization entails the twofold goal in learning/teaching, namely “*the contrast between learning and reproducing knowledge presented by a teacher (...) and learning as a personal transformation of ideas and evidence leading toward conceptual understanding (with a view of teaching as supporting that endeavor by the students)*” (Entwistle et al. 2001, p. 129). A postgraduate Oceanography student explained this relationship (Gibbs 2010):

If you are under a lot of pressure then you will just concentrate on passing the course. I know that from bitter experience. One subject I wasn't very good at I tried to understand the subject and I failed the exam. When I retook the exam I just concentrated on passing the exam. I got 96% and the guy couldn't understand why I failed the first time. I told him this time I just concentrated on passing the exam rather than understanding the subject. I still don't understand the subject so it defeated the object, in a way. (Gibbs 1992, p. 101)

This distinction has fundamental importance to how students and educators understand teaching/learning—nevertheless, it is not yet clear whether this perception provides strength to correct teaching/learning in a dramatic sense (Entwistle et al. 2001; Pask 1976).

Goals of Knowledge

Another goal besides learning or passing examination is for some students and educators to innovatively construct knowledge. The relevance for mentioning knowledge in this context is that our shared knowledge pool is limited by

examinations due to the fact that performances exceeding the formal educational goals cannot be measured at examinations. A student producing innovative ideas and solutions before and in examination situations is not measurable and therefore cannot be rewarded accordingly because most examinations are rigid and does not account for students performing over 100% or those “on the edge of the box” (Stadil and Tanggaard 2014). The bottom line for student, educator, and society in this case is, that creative, innovative knowledge will not be recognized as such in 100%-or-less demand structures, hence the quality of education systems risk vanishing. Seen from the opposite perspective, the borders which are set up in educational institutions can act as guidance toward desirable goals.

Goals of Development

What might seem a side note to some students is the very goal of education and examinations for others, namely *development*. Development involves emergence of new structures, restructuring previously established ones and experience blossoming of new, and this change happens through persons’ interaction with the environment (Zittoun et al. 2013; Valsiner 2008). Obtaining education and accepting the unavoidable examinations can contribute to development and an imagined picture of oneself in the future—educating might simply be a means to an end for some students. These goals of development via education can include being financially independent, earn someone’s respect, having something meaningful to do in everyday life in one’s future, etc. Yet other students will pursue education for development alone. Their point of education is not to obtain a secondary goal besides development. As Svend Brinkmann (2016) writes: meaning in life is linked to those phenomena which are in themselves a goal, the activities one pursue for its own cause and not to gain something else than the activity itself (p. 13).

Combining Motivation, Goals, and Examinations

The vast research field of motivation has advanced over the years and researchers’ zeal for conceptualizing motivation by accounting for arousal, direction, and persistence of actions and behavior is still moving forward (Franken 2002). From a social psychology stance, motivation describes “*why a person in a given situation selects one response over another or makes a given response with great energization or frequency*” (Bargh et al. 2010, p. 268). Motivation is expressed through cognition, affects, and behavior (Ryan and Deci 2000), thus, can be seen as a function that mentally and physically enables individuals to obtain their goals. Motivation is divided into two axes: conscious/unconscious and extrinsic/intrinsic. The *conscious motivation* demands an agent who carries out an active, conscious choice of action, while the *unconscious motivation* is automatic and spontaneous

(Bargh et al. 2010). Ryan and Deci (2000) define *intrinsic motivation* as “the doing of an activity for its inherent satisfactions rather than for some separable consequence. When intrinsically motivated a person is moved to act for the fun or challenge entailed rather than because of external prods, pressures, or rewards.” (p. 56). Intrinsic motivation exists within each individual, but also between individuals and activities. The motivational behavior is carried out throughout one’s life via an unquenchable desire to learn and explore, and by acting on these inherent interests, one grows knowledgeable and skilled. *Extrinsic motivation*, on the other hand, is based on its instrumental value and relates to activities pursued for the sake of some separable outcome. In the context of education examinations, it is relevant to consider which motivated activities are conscious/unconscious and extrinsic/intrinsic because this has significance for successful obtainment of knowledge and skills, and personal implications for each individual involved.

Individuals are motivated by different goals. Some goals are *proximal*, that is, relating to the immediate future, while others are *distal*. When achieving proximal goals, such as university examinations, one gets closer to the distal goal of finishing university. Hence, it is distal goals that sustain motivation while persons are conducting their everyday struggles. Goals need to balance between being attainable and sufficiently difficult in order to motivate. Furthermore, it seems that there are positive correlation between self-set goals and motivation, and between self-set goals and feedback (Franken 2002). Hence, in terms of examinations, this calls for a solution including consciously, intrinsically motivated self-set goals (both distal and proximal) regulated by feedback. Unfortunately, this is close to the opposite of reality for many students which are presumably why examinations seem meaningless. Humans are *homo desiderans* (Salvatore 2016): we *desire*, i.e., think, want, wish, need, and actively strive toward our desires. Education examinations can damage learning desire (Jensen 1977a) in lack of acknowledging that “... *not everything that can be counted counts, and not everything that counts can be counted*” (Cameron 1963, p. 13). Examinations strangle students’ desiderans and forcefully leave them as unconscious, extrinsically motivated meat robots.

Examinations for the Future

Based on my analysis, some education examination forms can be pointed out as better than others. Overall, there are six options to choose from: (1) clear all, (2) clear some, (3) clear none, (4) add more, (5) add parameters, and (6) divide examinations into assessing either knowledge and skills combined, or skills alone.

- (1) The first one, eliminating all examinations, would leave educational institutions, job market and society with little chance of knowing who is competent in what, which leaves this as a utopic option (at least if this is not followed/replaced by another system). Furthermore, we have seen that deleting

evaluations decrease students' motivation which is why a total clearance of all assessment is not a constructive solution.

- (2) The second option, to clear some examinations, is, based on my analysis, an idea to be welcomed. Some examination is clearly there for the sake of examination. An example of this is a situation where I had to respond to a written multiple choice test at university studying psychology—the question was how many feet psychologists have to sit away from one's clients. Obviously, the question of distance depends on each client–psychologist relationship, but this was made into something measurable in order to show the faculty and ultimately the politicians that we know something that cannot be known at all. The context dependency of the “right answer” is not considered in the examination, while it is central for professional practice. Hence, the reliability of examinations turns low. In cases like these which demands subjective stands based on *knowledge*, education examinations can be either eliminated or changed to a proficiency test of *skills* as illustrated in option number (6).
- (3) Suggestion number (3) simply entails leaving the education examination system as it is now with all the positive and negative implications this have.
- (4) The *fourth option* builds from the idea of familiarity, namely that by integrating a vast amount of tests from an early stage in school (e.g., from when children enter the school system), tests will become normalized in everyday practice, hence do not become an unfamiliar threat, and over time everybody could become more indifferent to tests overall. The downside is that increasing the number of examinations might lead to increased stress, anxiety, competition, lack of learning, top-down control, external motivation, and lack of meaning for each involved person.
- (5) Option number (5) involves adding parameters to the existing grading system such as autonomy in work, cooperation skills, punctuality, and concentration, contemplation, and interest. The downside to this is that this calls for even more strategies for passing these evaluations and does not provide the autonomy much needed to utilize one's intrinsic motivation. However, using more parameters could leave the job market with a more holistic picture of each university student, not only as numbers but also with regard to useful attitudes such as the suggested. Such system could support uncovering which students live up to formal goals and/or prosocial goals—marks and parameters make it transparent who is good at performing and who has good competences. When the aim of a university education is subsequently to obtain a job, the current tradition of describing isolated persons is only relevant insofar as the subsequent job is conducted isolated from others, which is almost never the case. Hence, we need to integrate parameters of abilities to co-regulate and co-construct in the assessment system if we attempt to draw on these abilities of students. If these abilities are not tended to during university education, one cannot expect students to skillfully master these abilities when passing one's last examination. Yet, this suggestion is relevant only insofar as society is motivated by the goal of examinations and assessment for employment, opposed to being motivated beyond examinations and assessment to a pathway

of constructing students capable of constructing knowledge for the future. If the latter is the goal, we must turn to the last option.

- (6) The last option, which, based on the logic of my analysis, would show most fruitful, divide examinations into assessing either *knowledge and skills* combined, or *skills* alone. Some might object due to ideologies which have blinded them, but the situation is that some jobs in society, and therefore educations too, require more knowledge than others. If a hospital hires a surgeon and a roofer, there is little chance that their work tasks will demand the same amount of skills and knowledge. Thus, examinations need to model reality in this matter. Examinations of skills are still required in order to ensure that certain standard skills are at place. Laying tiles, inspecting financial accounts, driving a truck, writing up patient records etc. In addition to these skills, some disciplines, such as medicine, psychology, and physics, need to be able to adjust and construct knowledge as they practice in their profession. In sum, some jobs build on others' knowledge which is learned and then practiced, other jobs rely on the ability to co-regulate and co-construct knowledge in situ. Hence, two types of examinations are needed in order to avoid university education passing business by.

Cultivating Knowledge Makers Through Two Types of Examinations: Skill-Focused Performances (100%) in Contrast to Knowledge-Focused Generative Processes (100+)

Universities need to fit education programs to motivate students intrinsically by changing the existing examination system. Currently, examinations consist of accumulated finished tasks—summaries—the system is skill focused, i.e., focus only on the accomplished products. Examinations should strive to measure both skills and knowledge by differentiating assessment tools—multiple choice tests are sufficient for measuring skills of taking multiple choice tests, whereas knowledge processes should be measured over time in situ. Thus, a focus shift to include the task as such, the learning process, is needed since this knowledge-acquiring activity is an asset many people make use of in their work life. Medical doctors, musicians, and computer technologists all need to master the required skills 100% before they can improvise when it is demanded by a new challenging situation. Consequently, what I am proposing is to initiate an examination form which promotes internally motivated learning where students' reward is the learning process and the acquired knowledge thereof. With this suggestion, university students will have the obligation to learn certain skills (extrinsically motivated) up to a point of 100% mastery, and afterward set goals for themselves which they have to manage on their own (intrinsically motivated). The process where students obtain these goals is the 100+ phase where knowledge can be tested as it is set in motion by being used by the students.

Combining different examination forms is difficult yet important since tests such as “multiple choice” give students no direction concerning how to set the information into practice. By working with the acquired skills, students can become knowledgeable. Some students will reach the point of 100% mastery of skills (or less), whereas others will be able to exceed this by unknown lengths. The important element is not how much students go beyond 100% since this will “do the job” in a work position only demanding what they expect. The important element is that students are taught how to set goals and use their knowledge to reach their goals. This might demand construction of new knowledge, combining one’s skills in new ways, or something not yet known to us—this is where creative innovations and disruptions can happen.

Abductive exploration, that is, stumbling over situations of astonishment, mystery, surprise, and breakdowns in one’s understanding (Brinkmann 2014), is a key element in this process. Instead of perceiving skillfully, creative handling of knowledge as a “holy” talent sent from above to few, chosen individuals (Stadil and Tanggaard 2014), education systems need to foster learning of abduction—they must teach their students to stumble so to speak. Learning to engage in this abductive endeavor is relevant to education systems if we expect students to be able to innovate and disrupt in the future. Being vulnerable and courageous while seeking out new territories in science can only happen under conditions where learning is not forced into and measured by systematical structures demanding full management control and strict barriers for obtaining success. In my suggestion, this would entail no use of the standard examinations—no examination dates considered to be “final destinations” of students’ learning process and no grades. By grading students after a frustrating learning process, one would steal their chance of experiencing meaningful learning—grading a psychological phenomenon such as learning is as useless as measuring the love for ones’ children with a ruler. My emphasis is here; when measuring something one must use an appropriate instrument. Thus, when aspiring to obtain creative specialists one must focus on the 100+ processes, whereas when one wishes a new generation of obedient bureaucrats with performance competences one should focus on 100% or less.

In reality, my solution could be initiated by working in groups through problem-based learning with a supervisor evaluating the group as they engage in their activities. By undertaking this form, university students can practice to work as they would after graduating, and on this basis, the supervisor, who is familiar with the group members, individual contributions, potentials, etc., can either pass or fail them. The “product” would in this example be the invisible learning process and a written report which the group has mediated through throughout their process. This example entails the potential of a fair, meaningful assessment illustrating what students are capable of over time. By grading students with either passed/not passed instead of grading accomplishment of a set of externally, objectively formulated goals, intrinsic motivation would have to be “the guiding light” for students. The safety in knowing, that when one has obtained the necessary skills one can focus on the learning process, leaves the student with an “empty space” which can only be filled by her own, intrinsically motivated goals.

The Culture of Trust Issues in Higher Education

In order to create a grade-free intellectual environment (after proving acquirement of relevant skills), *trust* becomes a central issue. The possible gain is to reduce the power gaps between student ↔ educator ↔ institution ↔ society ↔ powerholders so that more trust is exercised between knowledgeable scientific personnel (administrators and educators) and students as a go-regulative and go-constructive process.

Using the suggested assessment, system requires trusting the professionalism of educators; that is, trusting that educators can assess beyond relation and personal (dis)favours. Moreover, students need to trust their educators and institutions trust their students. When assessing learning processes, there is little guarantee that all students will conduct the maximum process and become capable of co-constructing and co-regulating knowledge in situ in the future—and even if they do there is risk that the educators cannot assess whether this “condition has occurred.” Therefore, education institutions need to trust that students are intrinsically motivated to set goals and self-manage these. By demonstrating mutual trust, there is a chance that the current extrinsic motivation could become intrinsic, that is, meaningful for students, educators, and society as whole. When exploring the world of science from a place of mutual trust in opposition to fear of punishment, there is reason to believe that the involved persons would not only become smarter, more curious, and better innovation craftsmen, but also more happy due to the feeling of meaningfulness.

By replacing institutionally monologization by labels (grades) with direct perceptual understanding of the environment (i.e., asking oneself “is this student good for my purpose?”), the consumer will gain not only the right to choose between different students, but the right to doubt the labels too. Valsiner (2014) refers to trust in labels such as grades as *socially guided dialogicality* and underline that “*We relinquish our propensity for dialogue in favour of the easy option of what I am tempted to label monological consumerism*” (p. 138). Thus, because trust grows out of immediate perceptions of doubting monologization, employers, students, and educators must use their words to shape doubt in the powerful grades. By taking a leap of faith and being transparent at universities, these institutions could presumably skip the current “*preventive actions by those institutions to not let non-trust in them emerge and grow*” (p. 138). If one wish to develop, one needs to trust one’s immediate perceptions—otherwise, we will only confirm, not develop (Pizarroso and Valsiner 2009). According to Peirce’s thoughts on abductive inference, people are bound to *hope* that their minds will be able to guess the sole true explanation of facts, that “*animated by that hope, we are to proceed to the construction of a hypothesis*” (Peirce 1901, 7.219) and that “*we ought to labour and cultivate this Divine privilege*” (Peirce 1911, NEM 3:206). Hence, trust, or hope as Peirce characterized it, is needed if knowledge is to be developed and not just repeated.

Conclusion

University examinations in their traditional form have great impact on student's goals and motivation. What is demanded of educators and students determine how and what they learn which is why a focus on which criteria students are assessed by, what society wishes to educate students for, and how to ensure validity, reliability, and transparency in examinations, is important. At this point is it not clear whether examinations are measuring what they are trying to measure or what the grades cover. This is partly due to a low level of transparency. The traditional unidirectional model of knowledge transfer in learning situations and examinations naturally foster certain power roles with the student in the bottom and the powerholders on top with educators, institutions, and society in-between. These power roles serve a suppressive and conformative function for students and educators, and result in converting the goal of education from learning processes to grades. This product-based focus impact students' and educators' motivation in multiple and profound ways—most importantly, motivation can become extrinsic rather than intrinsic.

The connections between examinations, goals, and motivation call for a solution in universities including consciously, intrinsically motivated self-set goals regulated by feedback in order to experience education as meaningful. In this chapter, I suggest cultivating knowledge makers by a combination of two examinations. Some examinations are primarily about obtaining skills at a maximum level of 100%, whereas others focus on the knowledge that springs from learning processes—these I call 100+ examinations. By acknowledging that some job tasks demand more knowledge than others and testing these accordingly, education systems could model the demands set forward for the life after graduation concerning mastery of creative, innovative, and disruptive processes. First students learn acquired skills and educational institutions test these with basic tests such as multiple choice tests. Subsequently, students are required to set goals for themselves where they set their skills in motion—this is the 100+ phase. The latter phase is not to be graded with numbers or words, but must be either passed/not passed based on the ability to improvise, abduct, think creatively, and orchestrate ones' skills into meaningful knowledge.

My suggested solution demands trust within and outside universities—trust that educators are fair in their assessment, trust that students are self-managed, motivated and goal-oriented, and trust that the right kind of assessment is a relevant tool when teaching how to co-construct and co-regulate knowledge in modern-day knowledge societies. An implementation could show effects in domains such as power roles, learning outcome, societies' knowledge pool, individuals' meaningful life course trajectories, reduction of stress and anxiety. Yet, the suggested solution is relevant only insofar as society is motivated by a goal of moving beyond examinations and assessment to a pathway of cultivating students capable of meaningful knowledge construction for the future.

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Chapter 24

Non Vitae Sed Scholae Discimus



About Learning to the Point or the Endless Travel of Research

Dominik S. Mihalits and Natalie Rodax

The well-known aim of the Bologna Process, ‘harmonising the higher educational systems in Europe’ (Fejes 2008, p. 25), has been ‘the target’ of the past years educational–political efforts within the European architecture of higher education (Papatsiba 2006). Currently, a total number of 48 countries participate and engage within the Bologna Process on a voluntary basis (www.ehea.info 2018; Benelux Bologna Secretariat 2009, p. 3). By the Bologna Process, the European Higher Education Area (EHEA) was aimed to be created to

boast a diversified catalogue of easily readable degrees and comparable degrees (described by the Diploma Supplement), a thorough implementation of the European Credit Transfer and accumulation System, it shall champion the promotion of mobility, European cooperation in quality assurance and an overarching European dimension in higher education in general. The EHEA rests on these vital pillars, which allow universities to continuously strive for innovation on the basis of their traditions. (Benelux Bologna Secretariat 2009, p. 18)

Mainly, the agreement of the Bologna Process targeted the adoption of ‘the three-tiered degree structure, familiar in North America, of bachelor’s, master’s and doctoral degrees’ (Floud 2010). By this, the main objective is set on ‘comparability’ which is considered benefiting students and teachers mobility and flexibility. Thus and by implementing these goals, students and teachers are constructed or positioned within the dimension of internalisation.

Processes of internalisation within the sector of higher education go hand in hand with ‘the necessity for economic viability’ (Olssen and Peters 2005, p. 313). Thus, education is long becoming a product of ‘the market’ that is striving to become more and more effective, or in other words: able to achieve targets. Hence, educational ‘outputs’ should become better ‘measurable’ to make them comparable. This becomes explicitly apparent in the establishment/implementation of an ‘objective’ crediting system, the European Credit Transfer System (ECTS). By this

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crediting system, points are awarded regarding the time that is invested for a subject. So, time is becoming ‘the’ assessment criterion of accomplishing one’s studies. Now, within the current neoliberal discursive topoi of ‘freedom’, ‘choice’ and ‘competition’, also higher education is becoming fed into this logic or ‘Zeitgeist’ (see also Olssen and Peters 2005): it resides with the student—and the teachers—how and, importantly, which kind of time is invested (see also Grabner et al. 2005); the romantic aim of the system is introducing a third agent between teachers and students—namely time—as objective parameter for acting on a European principle, namely using European resources ‘borderlessly’.

The Standardisation of Time, or: Creating ‘Borderlessness’?

Although harmonisation—or the softened version of ‘compatibility’ (see, for example, the official Web page of the European Union, <https://ec.europa.eu> 2018)—appears as main objective, the Austrian higher education landscape presents a highly diverse and ambivalent image when drawing a close look at the inside of different credit points. For instance, this starts with the transformation of equalising credit points with 25 up to 30 working hours regarding one ECTS credit point. Mathematically, this means that during a full bachelor’s and master’s programme (=300 ECTS), a student has to work, think and elaborate on ideas for at least 7500 up to 9000 working hours. Expressing this tremendous difference of 1500 working hours in ECTS totals a maximum of additional workload of up to 60 ECTS points for a single student. Following common procedures, this would mean an extra study year for an average student in Austria. So, speaking in numbers, comparisons can be simplified on the one hand, but on the other hand also these comparisons are not as easy—and thus tempting—as it might appear at first sight.

For instance, this becomes apparent when drawing a closer look at different accrediting institutions and their content of crediting. When studying in Vienna, for example at ‘BOKU’—the University of Natural Resources and Life Sciences—ECTS is awarded for landscape architectural projects as well as chemical or microbiological seminars and lectures, thus awarding different contents and different teaching modes with the same timescale. Another institution, the Vienna University of Economics and Business, by comparison again credits lectures on ‘Civil Law’ by ECTS and the TU Wien, by another contrast, awards lecture/seminars on ‘Quantum Theory’. Again and by far the biggest Austrian academic institution, the University of Vienna, credits many different studies, ranging from ‘Law’ over ‘Art, Culture and Media’ to ‘Society and Politics’ with the same time frame and system just as within many other European countries. Conclusively spoken, even by superficially looking on the architecture of various academic fields, ‘time’ might not always be the same ‘time’ (or: time can have differing meanings as a symbol) when looking on the various ways *how* time can be used.

However, not only within different subjects and disciplines, also within the same subjects, there seems to be much more plurality and ambivalence as one might think. For instance, this discipline–internal ambivalence can be attested for the case of psychology. In Austria, according to the Bologna Process, 300 ECTS must be acquired to become a psychologist that corresponds to the completion of both, a bachelor’s and master’s programme that qualifies for further postgraduate education, such as to intern in a specifying clinical training or the possibility to enrol within a Ph.D. programme. Nevertheless, for the concrete student’s practice, these 300 credit points are not an objective ‘key’ that offer a low-threshold transfer into other institutions or university programmes; rather, even within one city, it appears quite hard to interchange within different academic institutions due to institution’s varying main areas and/or the associated methodological or practical focus or even on a macro-level: due to educational political structures. Now, it can be concluded that by trying to homogenise ambivalences of institutions and disciplines, there is a tendency to overlook the continued existence of heterogeneity/borders and the potentially ‘more subtle ways’ in which heterogeneity/borders are ‘constantly being reproduced’ (this is close to the argumentation of McRobbie who sheds light on the functions of dominating neoliberal discourses—just within another sector/branch/division—namely gender relations; see McRobbie 2009, p. 46). Above this, intra-disciplinary ambivalences also appear even within one subject taught by just one teacher, for instance, when the same course should be taught in another language. Solely by the transformation/translation of contents into another language—if we regard language as a specific system of symbols—there are difficulties in transferring contents par for par, as concepts and words sometimes only exist within one language-speaking area (e.g. the German ‘Prinzip des Zweifels’ as a general principle of philosophy of science is not exactly what is referred to as ‘scepticism’ in English-speaking countries—yet, there is no complementary phrase existing for explanation). So, even within the smallest harmonising unit—within one course and teacher—the ideal of harmonising appears to be impossible to achieve.

Now, it comes apparent that by the unification—in the tradition and frames of neoliberal discourses—of various forms of performance into points, simultaneously, something else fades into background, namely the specialties, the particulars that compose a ‘being bond’ or the attachment to a discipline’s standpoint; by standardising performance, by creating a credit-outcome that is as (content-) comparable as possible, we try to adjust to current trends of ‘borderlessness’, to enable mobility. However, like Medusa’s head, ‘new’ borders seem to arise even naturally and simultaneously, as these points are charged with individual–institutional meaning that is of course bound and bonded to a specific context (‘Standortgebundenheit’ of knowledge, see Mannheim 1929, p. 33) and hence specific again. We address these ambivalences from where we are concerned with them, namely from our daily teaching practice: To us as lecturers at a specific location of an academic institution, the question arises, what do these standardising processes in turn mean for concrete institutions and concrete teaching practices? Or more specifically speaking: What does it mean for the very everyday practices of

tertiary teaching? This is an important question as there is a lot of research on the Bologna Process analysing many facets from the implementation (see, for instance, Capano et al. 2016; Kettunen and Kantola 2006; Reichert and Tauch 2004; Sin et al. 2016) to the concrete effects of the educational–political interventions during the process to the analysis of societal–political consequences (see, for instance, Amaral and Magalhães 2004; Zmas 2015), explicit critical reflections of the Bologna Process (Lohmann et al. 2014) or the conception of new study programmes and curricula for different disciplines (Przyborski et al. 2006). However, what we find under-represented yet is a concrete reflection of the current teaching practices within this changing landscape of European higher education. This is the aim of the contribution in hand. Importantly, the following pages should not be misleadingly interpreted as a fight against the Bologna Process, neither the other way round. Rather, it should raise critical voices in how we make use and sense of current education strategies: We started by interpreting the Bologna Process as a sign of contemporary postmodern neoliberalism, and now we shed light on the concrete effects/changes we perceive in our everyday teaching practice.

From Where We Speak, or: Where We Teach

The position from where we contribute our experience and perception is a private university that is located in central Europe. Interestingly, the study programmes in which we teach were once established as a direct answer to the Bologna Process. Specifically, the today's Faculty of Psychology, where we are employed at, started from a social-scientific, cultural psychological idea of how to implement the central desires—mobility and comparability—of the Bologna Process into a contemporary study programme (Przyborski et al. 2006, p. 211). Now, more specifically, when we talk about 'we' that means the team of the two authors of this manuscript: a woman and a man, 26 and 28 years old, sharing nowadays an office at the university, being passionate about research, teaching and psychology. Summarising our experiences of the last years, we arrived at 'break even': in the words of Bologna, we spent the exact same time on teaching as on being taught (ten semesters each). When we look at our teaching practice today, contents now vary from seminars in philosophy of science, methodology and qualitative research methods, up to courses in general psychology and social psychology. We prepare lectures and supervise term papers and final thesis projects—to keep it short and easy: we arrived at daily university business. Acknowledging that there is always a way to improve and learn, we think it might be time for a first résumé. Our point of view marks the position of a transition from the beginning of a never-ending story of studying to becoming a teacher. We know that we are biased from where we stand where we come, but simultaneously we think that especially our position of transition lets us see some elements of a 'Zeitgeist' of current higher education practices that we would like to share.

De-personalisation, or: The ‘Grunge’ of Comparability

Proceeding from the core promise of the Bologna Process, namely compatibility and flexibility for students and teachers by standardising time, Ruck et al. (2010) argue that this process also shapes a specific mode of studying. They contrast different styles of studying between ‘new’ forms of studying that are associated with ‘new’ bachelor’s programmes and ‘old’ forms of studying which are assigned to ‘old’ curricula. By comparing the different orientations, they reflect a loss for ‘the new’ studying forms of a specific period in life that was accompanied by the ‘old’ study mode. This phase is accordingly located between late adolescence and early adulthood and is considered to be a specific transition state that is characterised by an ‘escape’ from the more rigid set of rules of the former ‘schooling system’, and simultaneously, students experience a delay in arriving fully at work life (and with it a delay of responsibilities). This transition state—that is currently psychologically often addressed within the concept of ‘emerging adulthood’ (see, for instance, Arnett 2000)—is characterised by a living somewhere ‘in between’ (Sirsch et al. 2009, p. 275), while exploring various forms of living (shared flats, holiday jobs, etc., see, for instance, Arnett and Tanner 2006). Importantly however, although that transition state did not fade by the implementation of the Bologna Process, it still changed. The ‘old’ interim phase was much more characterised by a ‘loosened’ pressure of educational–political structures (Ruck et al. 2010). Proceeding from this, Ruck et al. (2010) argue that more open and less predetermined curricula gave space to experiment creatively with student’s own interests and usage of time, including the possibility of independent self-study. From our point of view, this is an essential difference to current modes studying and a sharp attest of Ruck et al. (2010), even though the text was written at the start of the implementation of Bologna. By the standardisation of time into points, we now also perceive that an essential factor fades into background and that is the ‘simple’ student’s question of: How do *I* want to design my contents of studies, how do *I* want to shape my curriculum? The ‘system’ now creates the points that are to be acquired in order to stay in prestructured time frames and to ensure comparability. Importantly, we can understand that students orient to that predetermined structures: How can—and even why should—someone develop the idea of exploring own personal paths if that would simultaneously mean a loss in time and may not be credited? More concrete: How to certify that someone read Foucault during a summer break or that one spent nights with friends interpreting philosophical meta-theoretical texts? Nobody will certify this knowledge in the specified coursework of, e.g., studying psychology—and so nobody seems to value this any longer. We perceive that by standardising time, studying easily becomes accompanied by a certain pressure to act within a frame that enables ‘us’ to come ahead.

To summarise, we read the standardisation of time as an abstraction from contents: On the one hand, we understand that credit points are needed to complete studies and to fulfil a future profile. On the other hand, however, we find that intra-individual processes, for example getting students involved with the

taught topics, are easily overlooked and forgotten. We observed that students are increasingly distanced from their studies by dichotomously distinguishing relevant points from irrelevant points—not genuinely questioning learning for points or what that mode of learning does with ‘them’ personally. From our perspective, student’s involvement is high when compulsory subjects—and the completion of the course points—can be directly linked to their anticipated professional future. Accompanying, slightly apart from the compulsory main courses of the prestructured curriculum located, subjects or even themes cannot be individually negotiated as important anymore as they seem to reduce speed and thus impacting a person’s determination/firmness. The neoliberal discursive imperative: ‘higher, higher, faster, further’ connotes digressing negatively (although digression can have highly positive and desirable effects on the process of finding/detecting/developing personal interests from our perspective), letting it fade into background making it very hard to detect personal interests that may even be localised somewhere in the fringe of the person who studies and the binding standards. We propose to call this process ‘de-personalisation’. For instance, this becomes explicitly apparent as we sometimes try to provoke students by asking whether they can identify with their own work. Students frequently answer: ‘My studies and work do not necessarily represent me in any way. But I need to finish “this or that degree” to be allowed to do what I want to do in the future’. Now, we see two problems coming from that statement: firstly, and if we think about the tremendous up to 9000 h of work that needs to be completed (as calculated at the very beginning of our manuscript), if an awful lot of points need to be acquired—and points start to be detached from personal interests—this means a whole lot of work that produces frustration and hence promotes training resilience (by maybe ruling out other forms of competencies and resources). Secondly, we as teachers have to strongly deal with this frustration if we want to re-involve students. Thirdly, we think that the frustration coming from abstracted learning also functions due to a delay of gratification: students orient to an imagined desired future job. By that, personalising happens intra-individually again by a glorifying and romanticising of future job ideas (in the sense of enduring something for the greater good). This can become highly problematic as these constructions of imagination might as well produce a ‘clash’ when arriving in the concrete world of work (temporary work, scarce paid full-time job positions, high thresholds when transferring between institutions, etc.).

The Stock Market’s Metaphor, or: On the Dangers of Abstraction from Contents

Metaphorically speaking, and from our point of view, today’s teaching environment at universities can thus easily be compared with trading at stock markets: once entered the market, it does not take long to understand the basic rule in trying to buy low and sell high. We think that this mode can be compared with today’s education

practices if we simplistically look at stock market practices: product contents bought by average consumers at stock markets are in most cases of subsidiary interest. Rather, the main interest lies in certain external formal characteristics that get attributed to the product. If we elaborate on that stock market example in more detail, we think that this becomes apparent by looking at investing in stocks with triple AAA rating. What does triple AAA rating do? It secures, and it ‘hedges’ specific transactions by an external agency that assesses the ‘value’ of the ‘deal’. So, consumers tend to focus stronger on the status and certificates of external agencies, than knowing the ‘product’ itself. Also in education, ‘ratings’ (e.g. university rankings or ECTS points) become more and more popular and hence strongly instruct and inform/guide our actions. They become orientation figures that change the landscape of higher education: from our perspective, the focus to which students orient when engaging in their higher education shifted from a more internalising ‘which contents do I want to learn’ to a more externalising ‘which points do I need to make my diploma supplement look as good as possible for my future employers’. Additionally, Gergen (2006) conceptualises this outward orientation as the ‘relational self’ by which he addresses the mechanism that ‘who one is’ sometimes strongly depends on who one is dealing with (see also Koppetsch 2013, p. 11). Another factor that, from our point of view, becomes increasingly important as an additional ‘hedging’ attribute is grading. We perceive the increasing importance of grades as additional sign of abstraction, as the abstracting points become a ‘*conditio-sine-qua-non*’ and grades function as additional criterion to assess a ‘quality’ of the acquired points—so, asking for the inside of the points is again fading into background as the grade is becoming ‘the’ sign of the performance that ‘hedges’ the value of points. On the one hand, cut-off values enhance the desired international, inter-institutional comparability (e.g. grade point averages as entrance requirement for postgraduate programmes). On the other hand, we see this as a sign of creating ‘new’ borders where ‘old’ ones appear to be lifted as these grade point averages also legitimate exclusionary practices raising questions such as ‘who gets access’ and ‘who does not’. So, points and grades become additional signs for allocating resources (such as participation in higher education) and hence becoming directly important to student’s individual career paths which is why the externalising orientation towards them seems natural and indeed intuitive to us. Simultaneously, the shift of borders, or the redrawing of boundaries, tremendously challenges the ability of anticipation: while being highly entangled in our own career paths and orientation to points of requirements, we—students just as well as teachers—must fluidly and flexibly adapt to the shifting of borders, not knowing where the next border(s) will lift up (we compared this with Medusa’s head in the beginning of the article). Now, within this system it seems inevitably to us to not orientate externally.

Above that, we also see another factor coming from that externalising orientation, namely an additional orientation towards the future that plays an important role in processes of abstraction. Again, when comparing processes with stock

markets, the process of buying even seems so complex, reaching out in so many directions that customers feel like being unable to access enough clear information to make well-elaborated decisions. Furthermore, the whole ‘gambling’ is only attractive to us because we buy in the present but desire to sell high in future. Also in the education sector, ‘time’ and especially ‘speed’—shortly: to make rapid progress—became important values as we outlined above. Therefore, the focus gets strongly narrowed towards the future and anticipation again becomes ‘the’ mode of orientation—present interests are rather considered to be distracting. Of course—whereas the value of stocks is easy to be expressed in money—education seems much more complicated and difficult to measure. But the trends of the abstraction and the orientation towards a nebulous future shape our modes of doing things in the present, and this is why we consider abstraction also dangerous for us as teachers. This is not only a debate on how abstraction influences student’s modes of learning, but it should also consider our own involvement and how we contribute to further abstracting. So, at this point of the paper the question arises: How can we as teachers deal consciously and responsibly minded with the dangers of abstraction?

Teaching Within Shifting Borders, or: The Attempt to Provide an Outlook

Conclusively spoken, we identified abstraction and de-personalisation from our daily teaching practice as challenging or as challenges in interactions with students. We think that especially these two mechanisms need to be addressed in future modes of teaching. Firstly, we reflect that the stronger focus on the outcome—onto points and grades—needs to be critically addressed by us as teachers. Abstract parameters are also seducing us to better assess comparability, but we must not forget that structures and borders are not fading but rather changing and that neoliberal topoi—which with we as teachers are also entangled with—tend to blur the continuing existence of heterogeneity/borders. Secondly, we think that we as teachers also have to reflect on current proposals to deal with abstraction more directly: for instance, although e-learning techniques are strongly discussed to have conspicuous advantages that we can use for the changing landscape of teaching in higher education, we think that we have to keep in mind that minimising the personal contact could also simultaneously collude in further abstracting and hence distancing. Importantly—and as we think that there are trends in teaching that we cannot and maybe must not work against—we propose that it is not about the channel we use in teaching (e.g. e-learning or the other extreme of small seminars), but about *how* we as teachers use those channels and the identification we can offer in the relationship between the students and ‘us’ teachers.

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Chapter 25

Implementation of Curriculum Theory in Formation of Specialists in Higher Education



Kaarel Haav

National practices of curriculum building have been described by many authors (like Albert Kelly in UK in 2009), including myself (Haav 2010, 2012, 2015). The history of curricula and their theories has been reviewed by many authors in many books including those by Pinar et al. (2008) and SAGE (2010, 2015). The dominant model of curriculum design has also been outlined by many authors, including Sowell (2005), Oliva (2012) and Slattery (2013). I myself have sophisticated a social scientific curriculum theory and implemented it in improvement of some higher education curricula (Haav 2015). I have also critically analysed administration and policy of national curricula in Estonia in 1920–2010 (Haav 2010, 2012, 2015). As the authors of the chapters in Part IV concern curriculum practice without any references to these models, it is vital to review the dominant model and the social scientific theory of curriculum development. It enables to reveal how the Danish and Luxembourgish practices differ from the dominant model and how they violate the theory in some points.

Elaboration of a New Social Theoretical Theory for Development of Both Students and Curricula

Following John Dewey (1902, etc.), the goals of student and curriculum development should coincide. In higher education, there are two main goals: education of good specialists like psychologists or teachers, and active citizens. The curriculum planning has followed the business model of design (Franklin Bobbitt 1918 and Werret Charters 1923). There are five main steps. First, an analysis of market needs. Second, one should define objectives and expected outcomes for education of new

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specialists. These general goals and outcomes determine the next steps. Third, one should select modules and courses. The general goals become differentiated in main modules and in all subject syllabuses. They determine selection of study materials (like theories and concepts) and methods. Fourth step is implementation of these theories, concepts and methods in teaching and learning of these courses. The last step is evaluation of the results and achievement of the goals. After the works of Ralph Tyler (1949) and Hilda Taba (1962), the goals and outcomes have been expressed by verbs like students know, understand, have skills for implementation and demonstrate some positive attitudes and values. This relies on Bloom's revised taxonomy of cognitive processes. (Still, it remained isolated from other forms of reactions which are common in all animals: perceptions, feelings, actions). If all subject syllabuses are designed with main goals in mind and teachers have done the same, then all main goals will be achieved. In many decades, curricula were the monopoly of academic staff in educational institutions (the unitary model). In practice, the academic staff did not always follow these ideas of human involvement. Other educational partners had to intervene. In the 1970s, the **political or pluralist** model of curriculum design was recommended. It required that representatives of students and wider society like employers should have equal say in all steps of curriculum design, implementation and evaluation. In theory, all these three partners should be equal in curriculum councils. In practice, this is often different.

The curriculum theories have been elaborated first for national curricula and later for higher and vocational education, too. The EU's educational policy promotes these ideas in their "Bologna process" since 1999. The EU education ministers decided to re-formulate all HE curricula in terms of learning objectives in 2010, at latest. Estonia conducted a huge campaign in 2006–2010 and compiled also guidelines for that (Rutiku et al. 2009). They provided more technical than theoretical advice. There were lists of exemplary outcome formulations, too. (These examples were not derived from the main goal of student development. They did not make up any hierarchical system.) All Estonian HEI-s fulfilled the minister's order and re-formulated their goals also in terms of learning outcomes in time, in 2010. Unfortunately, in most cases, they did not restructure their lists of courses and modules accordingly. As a result, the re-formulations did not make much difference in educational practice. After 2010, neither educational policy nor management paid much attention on implementation of curriculum theory for student development.

The System of Most General Concepts

Curriculum for student development is possible in both theory and practice. I have elaborated the conceptual system of curriculum theory and turned it hierarchical (Haav 2012, 2015). The main concept of man (or student, citizen and specialist) is complex and controversial. It is actually a system of concepts. (It evolves all the time and it will be never completed.) Still, we can find its most general initial definition. Men are at the same time parts of some broader systems and individual

wholes. They are parts of natural, social and cultural environments. It is misleading to define the concept of man as isolated from these environments.

In sociological sense, man is collection of his or her social relations in some social structures. Society, in turn, is a collection of horizontal and vertical social relations between all people. Society is not a physical thing. It is a process of social construction. Men are main actors in this system and their activities are parts of the whole social system. People have different positions in these social systems and these differences are expressed by special dichotomist concepts of social actors and social structures. In business enterprises, owners, managers and employees have unequal positions and opportunities for using social resources and achieving their goals. In democratic states, there are elected politicians as representatives of people, public administrators and civil servants. They have unequal positions and opportunities, too.

In semiotics, culture has been defined as signs and sign systems. In this sense, men are collections of their sign systems (like languages) that they actually use. Men are parts of some cultural systems and main actors in these systems. The language signs refer to some objective things and phenomena in reality, in human environment. They are symbolic representatives of reality and their meanings are socially negotiated. The written signs have enabled accumulation of human experiences and knowledge outside of individual brains. From the other hand, as the language signs are symbolic and their meanings are socially negotiated, then they also enable misinformation, manipulations and lies. The main social actors have different opportunities for definition of main concepts and dissemination of knowledge. In sum, these dichotomist concepts (man and society, social actors and structures, man and culture) are mutually inclusive and integrated.

The narrower, but integrated concept of man is identity. It consists of personal and social identities. The social identity refers to the man's most important but limited number of social and cultural relations. (In difference to that, the concept of self-knowledge covers all ideas that people have about themselves and their environments. The number of these ideas may be unlimited and they may be poorly structured.) People identify themselves with their families, home, neighbourhood, educational and work organizations, environment, political and other ideas and national states. This enables them to take the larger social entities as part of their personal identity and improve their self-esteem. Different social actors have unequal opportunities for formation of their organizational and national identities and influence on the identities of other social actors.

These concepts of man and identity can and should be used as methodological devices in curriculum design for selection of school subjects and their conceptual systems. For example, if we focus of political development of people, then all people should know not only how to take part in national elections, but also their opportunities to make a difference, to influence the policies and take part in governance. They should know how to evaluate members of Parliament and political authorities. To do so, they should practice their intellectual, analytical and communication skills. This complex knowledge is more important than formal and one-dimensional description of Parliament and Government.

Implementation of the Concepts in Textbooks and Teaching

If the main goal is human progress, then we should design textbooks that take it into an account. We should distinguish between two types of textbooks. One of them is handbook that provides a systematic review of main fields, theories and concepts. The other is textbook that combines subject knowledge with concepts of students' advancement. It supports learners' development. It refers to handbook and introduces some of its concepts and other materials.

If we study theories of human development (psychological, sociological, educational, semiotic and other), then the two aspects largely coincide. Students acquire main concepts of their evolvement and create their own conceptual systems. They obtain competences and skills how to use these concepts in their practice. It fosters formation of their value systems. They become motivated to master themselves, their learning and maturation. They are willing to take part in design of their own curriculum as the main strategy for their progress. As a result, the subject knowledge, competences, skills and values do not counteract each other as it has happened in other school subjects and curricula so far.

The problem still remains in syllabuses and textbooks of natural sciences. In this case, designers of these materials should have double qualification, both in subject matter and in human advancement. Their compilers should study this social theoretical and semiotic theory of human development and create a model of this theory. They can use the model as a guide for selection of all necessary subjects, their syllabuses, theories, concepts, methods and other materials. This way, all subjects will contribute to some aspects of human development. Otherwise, there should be two authors. One of them should be specialist in subject matters and the other—that in curriculum and student development.

Knowledge of these initial mutually inclusive concepts is vital in order to comprehend the complexity of the real persons, societies and cultures. If they are not defined or they are defined as isolated phenomena, then they hinder understanding of controversy of personal, social and cultural phenomena. These ideas are necessary in other educational levels, too. In higher education, all professors and teachers should know the essence of these concepts and integrate it with their professional knowledge. Otherwise, they should have enough opportunities to consult with these human experts. If they would succeed to do so, then curriculum could become the main strategy for human, social and professional advancement. This idea is a basis for a new theory (Haav 2010, 2012, 2015). I have implemented these new ideas in my teaching of national and international students at the Tallinn University of Technology and some other Estonian universities in 15 years. I also recommended the framework (Haav 2015) to educational institutes at the Tallinn and Tartu Universities and Estonian Ministry for Education and Research.

In practice, this theory dominates neither in compulsory, nor in higher education (HE). In Estonia in general, every HE curriculum has an administrator and a small council. The majority of this council consists of teachers and professors. There are also representatives of students and wider society (employers' and

professional organizations), but they make up the minority. It means that there is no equal partnership. Often, the academic staffs follow their professional and power interests. They may ask some other scholars, representatives of employers and students for their advice. They may pay to these opinions some attentions, if this does not counteract to their professional or power interests. If it does, then they can ignore such opinions as they dominate in curriculum council. In this case, curriculum may be more a tool for academic power struggles and manipulation with others than a device for education of good specialists.

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Part VI
**General Conclusions: *Quo Vadis*,
Higher Education?**

Chapter 26

What Has Happened to Quality?



Thomas Szulevicz and Casper Feilberg

The national Danish parliament recently agreed a new model for university funding, placing more emphasis on performance incentives, outcome, and quality. The general political statement about the new model was that it would develop and intensify the framework for quality measurement and that the new reform would pave the way for rewarding quality in higher education.

The intensified focus on quality and quality measurement is by no means only a Danish phenomenon. On the contrary, over the last 20 years, universities around the globe are drowning under a tsunami of quality assurance systems. Supposedly, these quality assurance systems set a more or less common framework for quality assurance, they enable improvement of quality, they support mutual trust within and across universities and borders, and they provide valuable information on quality for the media and stakeholders. But the quality assurance systems have also become a very contested territory—and rightly so. Accompanied by other (neoliberal) regulatory tools, the quality assurance systems have changed academia, and some would even argue that they have threatened the *raison d'être* of academia by turning universities into manufacturing companies with counterproductive quality standards.

After a description of some of the most common quality assurance regulatory principles, we will (1) analyze the concept of quality in present-day higher education, (2) analyze some of the consequences that quality assurance systems impose on universities, and (3) discuss how the quality assurance agenda affects students. Few would probably dispute the view that publicly funded universities should be based on quality and be accountable for what they do. Nonetheless, a central point in the article is that the notion of quality in higher education basically is completely non-educational, and that the quality assurance systems are undermining some of the very foundational ideals of academia. The quality assurance systems are driven

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by administrative and economic logics that often are problematic or even incompatible with educational principles. We therefore conclude the article by very briefly pointing to some alternative ways of addressing quality in higher education.

Humboldt and New Quality Assurance Regimes

Universities have always been preoccupied with quality. What has changed is the way universities are kept accountable for their quality in research and teaching and as a consequence how quality is measured, monitored, documented, and evaluated in higher education.

The German philosopher, Wilhelm von Humboldt (1767–1835), is often considered the father of the modern university. Put shortly, Humboldt's ideal was to educate confident and autonomous citizens, independent of their class, family backgrounds, and political interests. For universities, Humboldt emphasized the idea of unity between researching and teaching and that university teachers through their teaching should be the advocates for the education of young people. According to Humboldt, the ability to think critically and freely is the core of university education, and something much more important than strict vocational training. Universities therefore have to be free in the sense that professors are free to teach what they find important and free to do research unbiased by political, strategic, or economic interests. Similarly, students are free (academically self-governing) to choose their study programs of choice as well as free to put together some of their curriculum (*Lehr and Lernfreiheit*). In Humboldt's view, a member of society—whether student or professor—should not be the object of the state but rather a subject who helps to shape conditions (Long 2010). Humboldt's view was thus that if you educate the subjects of society, then society will ultimately benefit.

From a Humboldtian perspective, quality thus emerges from a unity of research and teaching and by emphasizing *Bildung* (formation), free, critical research and thinking. Both before and after Humboldt, universities have been preoccupied with quality and by the assurance of academic quality, as put by Jarvis:

Historically it has comprised the *raison d'être* of an academy in search of truth through the application of reason, objective method and the discovery of knowledge—a process built upon peer review, rigorous impartial assessment, critique and a perennial preoccupation with interrogating ideas and epistemologies of knowledge. The embodiment of these traditions and the lofty philosophical pursuit of placing knowledge in the service of humankind lie at the very heart of the idea of the university. Any reading of the history of the modern university, for example, not only celebrates the triumph of reason over theism, creed and dogma but elevates the notion of academic freedom and self-governance as principles central to the operation of university life.... (Jarvis 2014: 155)

Over the last 20 years, the academic virtues of freedom and self-governance have been jeopardized by a global trend where most universities now face standardized quality assurance regimes. These quality assurance regimes have become

an all-pervading regulatory tool in the management of present-day higher education, and they represent a hitherto unseen level of political interference in higher education.

When googling ‘Quality assurance in higher education,’ we got more than 50,000,000 hits and it quickly became clear that no university worth its salt would seem trustworthy without a clear and well-documented quality assurance system. In the following, we will describe what such a quality assurance system looks like by referring to the report ‘Standards and Guidelines for Quality Assurance in the European Higher Education Area.’ The report is the result of an EU-funded project that aims at providing common quality standards for European universities.

In the report, it is argued that the purpose of standardizing European quality guidelines is to (a) set a common framework for quality assurance, (b) enable improvement of quality, (c) support mutual trust within and across borders, and (d) provide information on quality assurance across European universities. The report distinguishes between three levels of quality standards: (1) internal quality assurance, (2) external quality assurance, and (3) quality assurance agencies. In the following, we will sum up the internal and external quality assurance standards, respectively.

Concerning the **internal quality assurance** standards, it is highlighted that:

- Institutions should have a policy for quality assurance that is made public and forms parts of their strategic management.
- Institutions should have processes for the design and approval of their programs. The programs should be designed so that they meet the objectives set for them, including the intended learning outcomes. Students should be encouraged to take an active role in creating the learning process.
- Universities should provide conditions and published regulations for students to make progress in their academic career.
- Institutions should assure themselves of the competence of their teachers.
- Institutions have to ensure appropriate funding for learning and teaching.
- Institutions have to collect and ensure reliable data and use relevant information for the effective management of their programs (information management).
- Institutions should publish information about their activities.
- Institutions should monitor and periodically review their programs to ensure that they achieve the objectives set for them.
- Institutions should undergo external quality assurance on a cyclical basis.

For the **external quality assurance** standards, it is highlighted that:

- External quality assurance should address the effectiveness of the internal quality of assurance.
- The external quality assurance should have clear aims agreed by stakeholders—however, the system for external quality assurance might operate more flexibly if universities have documented effective internal quality assurance procedures.
- External quality assurance processes should be carried out professionally, consistently, and transparently because it ensures their acceptance and impact.

- External quality assurance should be carried out by groups of external experts that also include students.
- Any outcomes or judgments made as the result of external quality assurance should be based on explicit and published criteria.
- Full reports by the experts should be published and complaints and appeals processes should be clearly defined (the descriptions of the internal and external quality procedures are all based on the report ‘Standards and Guidelines for Quality Assurance in the European Higher Education Area’ (2015)).

We have spent a considerable amount of space in this article to document the quality assurance procedures in higher education. This is a very conscious choosing because these procedures have changed universities dramatically, and it is in our firm conviction that these procedures have often unforeseen consequences for teachers/researchers and students alike. Before discussing and analyzing some of these consequences, we will line out the line of reasoning for implementing strong quality assurance procedures in higher education.

Why Effective Quality Assurance Procedures Are Needed

The quality agenda has been contested territory in most countries and shrouded in intense debate. Most universities are either public or rely heavily on public funding. This is also one of the reasons why academia repeatedly is faced with questions concerning its cost-effectiveness and usefulness (Alves 2015). In their pursuit of knowledge (and effectiveness), universities are expected to produce documentable outcomes—both when it comes to research and teaching, and the quality assurance systems are used to ensure homogenous and acceptable standards for student engagement, research, research-based teaching, etc.

The quality assurance agenda has also been fueled by the fact that benchmarking and the production of comparable data globally have become crucial governing tools.

The proponents of the quality agenda argue that universities act in a changed and increasingly knowledge-based world where higher education plays a crucial role in socioeconomic and cultural development. These changes call for new competences and skills, but also highlight the need for universities to respond in new ways. Among other things, higher education faces growth of internationalization, digital learning, new funding structures that all call for more strategic decision-making. Universities thus face new and more complex challenges and the rationale seems to be that these challenges call for new types of regulatory tools and political management. The quality assurance procedures represent such regulatory and strategic tools that respond to the different challenges in the new higher education context by ensuring high standards for research and by ensuring the qualifications achieved by students (Alves 2015).

In Europe, the Bologna Process is the structure that secures common standards among European universities. For many years, European universities felt that they were the center of educational innovation, research, student-centered teaching, and quality development. For the last 30–40 years, there has been a growing feeling that Europe has lost this edge to American and Asian universities, and to address this decline, the Bologna Process was developed (Zajda and Rust 2016). Almost all countries in Europe now have a harmonized degree and course credit system (ECTS) that allows students to move freely across borders. A single education currency has thus been developed that secures administrative flexibility and student mobility. Moreover, the Bologna Process has also comparable quality assurance systems that secure transparency, mutual trust, accountability, and comparability between universities in the interests of both students and stakeholders.

The implementation of quality assurance systems is often accompanied by a logic prescribing how we live in an increasingly complex world with problems like climate change, widespread obesity, rising political extremism, rising energy costs, food price volatility, and that universities as a consequence need quality standards to address these increasingly complex or wild problems. It is a fact that it is essential for higher education to grapple with these problems. However, we still need a convincing answer as to why standardized quality assurance procedures prove to be the solution. Jarvis (2014: 156) describes how contemporary higher education finds itself amid two different narratives. The first narrative originates from the Humboldtian heritage and hails academic freedom, autonomy, and diversity. The second narrative has fostered the quality assurance systems and seeks to regulate and manage higher education in the presumed interests of society and stakeholders by focusing on university performativity and in the end: the economic worth of the university. With the second narrative, we have seen the development of a university which basically is in conflict with its own foundational values and principles.

Summing up, there seems to be universal recognition that some official monitoring of teaching and learning processes in higher education is needed (Filippakou and Tapper 2008). However, the fundamental and normative question about the purpose and extent of this official monitoring remains almost ignored, and in the following sections, we will discuss some of the consequences of the quality assurance systems for (1) the notion of quality, (2) its meanings and consequences for universities, and (3) some of the consequences for students in higher education.

What's Happening to Quality?

With the quality assurance agenda, the concept of quality becomes *self-referential* in nature. This self-referential nature is, for example, evidenced in the European quality guidelines described earlier in the paper; quality in higher education is ensured by having a public policy for quality assurance. Study programs have to be designed in a way where they can live up to the quality standards set for them.

Universities have to undergo external quality assurance, and the external quality assurance is brought into the world to address the effectiveness of the internal quality assurance procedures. We have, in other words, designed a system where quality in higher education basically is defined as the fulfillment of predefined quality standards. Quality has hereby been turned into what we would term ‘meta-quality’ and quality has thus been transformed to form without a content.

Our main concern about this practice of meta-quality is that it too easily ignores asking key educational questions of content and purpose: what’s actually measured when we measure quality? What’s the (educational) purpose of quality measurement? Why do we measure on these specific quality standards, etc.? Within the current, self-referential quality assurance system these questions are usually left unanswered. Instead, what counts as good quality is taken for granted and quality thus gets standardized, de-contextualized, quantified, and reduced to a form ripped of content. This also results in a unification of quality, because only the predefined quality counts as meaningful quality. Moreover, we end up with a notion of quality, which primary quality is that it is administrable, monitorable, and measurable.

In Chap. 21 in this volume, Tanggaard (2018) warns against the current lack of content in higher education. According to Tanggaard, functionalist models of learning have replaced or reformed content with competence goals instead. Tanggaard discusses how this functionalist view of education and learning is undermining creativity in higher education. From our perspective, another interesting (or worrying) consequence is that educational notions of quality get replaced by economic, functional, and administrative ones.

In a provocative paper with the catchy title: ‘*If You’re So Smart, Why Are You under Surveillance?*’, Lorenz (2012) reflects on how neoliberal reforms and New Public Management change higher education, and how these reforms also change our understandings of different concepts. Lorenz describes how: ‘*NPM policies employ a discourse that parasitizes the everyday meanings of their concepts—efficiency, accountability, transparency, and (preferably excellent) quality—and simultaneously perverts all their original meanings.*’ (Lorenz 2012: 600). Lorenz argues that the concept of quality gets caught in an Orwellian spin, gets redefined and basically turned into its opposite. The rationale is that the quality assurance systems more or less subtly undermine the premises for quality, while higher education has been seduced by a hegemonic ‘qualispeak’ (Lorenz 2012: 625) that is extremely difficult to argue against. Because who is against quality, transparency, efficiency, student engagement, etc.?

Our point is thus that universities get governed by a notion of quality that basically is non-educational, unified, standardized, quantified, devoid of content, and driven by economic and administrative logics. With the current quality assurance agenda, universities deliver quality, when certain kinds of outcomes are produced: employable graduates, patents, profitable products, innovation, technological applications, useful research, etc. According to Alves (2015), this notion of quality represents an instrumentalization of higher education that ultimately threatens the role of academia in society. Alves describes how academia always has had the privilege to search for knowledge without the limitations imposed by a

narrow efficiency principle. This privilege is slowly being set aside by a global and instrumental standardization of the relations between academia and society (as evidenced very clearly in the quality assurance agenda). This standardization threatens the plurality that always has characterized academia and that also is a prerequisite for genuine innovative and critical thinking.

What's Happening to Universities

We unfolded above how academia has been subject to a self-referential, standardized, and instrumental notion of quality that basically has not much to do with quality. In this section, we will discuss how this notion of quality influences universities.

Firstly, the quality assurance systems are extremely time-consuming, and as a consequence, most universities have made a substantial expansion to their administrative departments in the drive toward high quality and sufficient service delivery (Busch 2017).

With the likening between quality and measurable outcomes (number of graduates, study progress, publications and citations), the need for administrative staff who monitors, analyzes, describes, and validates these outcomes has exploded. Between 1993 and 2007, of 193 research universities in the USA, the number of full-time administrators per 100 students grew by 39%, while the number of academic staff grew by only 19%. Another study by the US Department of Education suggested how employment of administrators rose with 60% from 1993 to 2009—10 times the growth of tenured faculty members (Busch 2017: 32–33). Busch further argues how European countries have established national quality assurance agencies to monitor university performance and that yet another layer of bureaucratic rule making thus has been installed.

In short, the quality assurance agenda has resulted in a huge administrative expansion and the production of massive amounts of data on university efficiency and productivity.

Intuitively, this administrative expansion would relieve the administrative pressure on academic staff. But this does not seem to be the case at all. Quite on the contrary, government regulations of higher education and managerial micromanagement seem to have been escalating pressures on academic staff (Berg et al. 2016). This indicates how administration basically generates more administration and that academic staff increasingly is burdened with administrative tasks.

To our knowledge, there are no confirmed causalities between the rise in quality assurance procedures and increased stress levels among teachers and researchers in higher education. There are, however, lots of research and findings reporting how academics in universities suffer from work-related stress problems. A survey of academic members of the UK-based Association of University Teachers, for example, found that 93% of its members suffered from stress related to their work, and other studies have found that academic faculty members are more prone to

mental health problems compared to staff in other sectors (Berg et al. 2016: 170). A recent Danish study found that 77% of academic faculty members reported how their workplace was perceived as stressful. The faculty members reported how the feeling of not having sufficient time to research following the combination of teaching, research and administrative tasks is what leads to work-related stress (Abrahamsen 2017).

Berg et al. (2016) argue how ranking, evaluations, and academic audit systems (also quality measures) have a significant impact on well-being among academic staff, since these systems tend to produce inequality, competition, and precarity.

The quality assurance agenda is evidently based on rational and conscious aims, but the consequences of the quality assurance are not rational. Our claim, on the contrary, is that the quality assurance agenda results in defensive and ultimately counterproductive processes. As universities slowly get internally colonized by quality assurance regimes, they seem to develop an organizational paranoia resulting in an error management culture: What happens if we do not live up to the quality standards? What happens if we do not document our quality efforts sufficiently? What happens when/if our student's complaint about the quality of our programs, etc.? These worries are legitimate and well-founded, since failing to live up to the quality standards might have fatal consequences for universities. The result has been the growth of an audit culture and a 'mania for constant assessment' (Craig et al. 2014). The worries about failing to live up to the quality standards might even develop into a more pathological character. This is at least Craig et al.'s (2014: 6) claim, as they describe modern day universities with the use of a psychosis metaphor. A psychosis is a fundamental derangement of the mind and is characterized by defective contact with the world. The psychotic patient often experiences delusions, hallucinations, and disorganized behavior. By being subject to an extreme audit culture and pervasive quality assurance systems, Craig et al. argue that the modern public university is showing signs of becoming delusional, of having a defective contact with reality and of being paranoid.

In the same vein, Berg et al. (2016) describe how anxiety among academic faculty members is produced in modern-day universities by promoting feelings of insecurity and precariousness as a result of ever-increasing productivity targets, internal audit systems, and grant income expectations. Berg et al. (2016: 177) sum up their concerns related to mental well-being among faculty members in this way:

It is a neoliberal academy that has produced constant uncertainty over future employment, ratcheted up the effort required to keep one's employment, created an atmosphere of close and constant evaluation, and because it is centred on a model of competition, caused a deterioration of supportive relationships between workers and their institutions. All of these processes lead to feelings of precariousness and stress and the result can only be a rise in levels of anxiety among academic faculty members in the neoliberal university.

According to Berg et al. (2016), the model of competition deteriorates the relations between workers and their institutions and it eventually leads to feelings of stress and rise in levels of anxiety. Moreover, the competition model also leads to competition between disciplines as there are huge differences in how different

disciplines are subsidized and valorized. The disciplines producing most quality (employable students, most funding, etc.) are the most appreciated. This means that Arts and Humanities tend to be de-valorized (lower funding, more regulation), while the science, technology, engineering, and mathematics (STEM) generally receive much better funding and are more subsidized.

What's Happening to Students?

So, how are students doing in a quality-obsessed academia? Thorley (2017) describes how levels of mental illness and distress and low well-being among British university students are increasing, and that these levels are high relative to the rest of the population.

Low well-being among university students unfortunately seems to be a global trend, and while most Western societies are witnessing epidemics of well-being and psychological problems, we still need to ask ourselves about why students in higher education seem to be increasingly distressed.

As a result of the sharp rise in the number of university students—massification of the higher education (Davidovitch 2016)—an undergraduate degree has today become a degree for the masses. Coupled with a ‘performativity regime’ among students marked by ‘CV-competition,’ résumé building, career-planning, employability, and increased competition on academic achievement, we thus have a potentially inopportune cocktail with a lot of students fighting to build the best CVs, get the best grades and the best jobs.

From a highly critical perspective, Furedi (2017), on the contrary, argues that universities have been infantilized meaning that students get depicted as vulnerable and dependent on (institutional) parenting. According to Furedi, this has happened because parents have become over-protective and more reluctant to encourage their children to take risks and to behave autonomously, independently, and freely. As a society, we thus exhibit a risk-aversion alongside a tendency to consider and treat existential problems as psychological ones. This is exactly the case when university students are considered stressed and not just burdened or busy. When a great percentage of university students are treated as stressed and vulnerable, they also become subjects to pathology. As a (natural) consequence, we have seen an increased focus on study environment and the affective aspects of student learning, and over the last years, there has been a massive rise in the promotion of well-being, therapeutic interventions, and emotional awareness in higher education. On one side, the alarming rise of stressed students has to be addressed, and it seems reasonable that universities take care of students in different kinds of difficulties. On the other side, these measures could be considered individual symptom treatment hiding over unsolved educational and structural problems that are reinforced by universities subject to extensive quality assurance systems.

A central discourse in the quality assurance agenda is that students are encouraged to take an active role in their learning processes. The apparent ideal is

thus the student as an active and self-regulated learner. And while this ideal might be difficult to argue against, we still want to argue that the quality assurance agenda influences students and their ways of studying in often subtle, and from our perspective, also undesirable ways.

Gourlay (2017) describes how the term ‘student engagement’ has come to play an omnipresent role in mainstream higher education discourses. The backside of this discourse is a lot of responsibility being placed on the individual student:

This apparently benign discourse ‘wears the clothes’ of progressivism, but could be critiqued for offloading the responsibility onto the students and indirectly reinforcing the marketised view that the student carries sole responsibility for their learning as a customer who makes a financial investment for personal gain. In a policy environment such the present one in the UK and beyond where assessment of ‘teaching excellence’ is likely to lead to farreaching financial and reputational consequences for students, academics and institutions, this standpoint calls for rigorous and sustained scrutiny. (Gourlay 2017: 29)

Gourlay considers the self-responsible learner as a general neoliberal ideal in which students are expected to be self-evaluating, responsible and self-monitoring. But students are not only supposed to be evaluating themselves. They are equally asked to be evaluating teaching, and student evaluations have become extremely powerful regulatory tools in higher education. We recently read an evaluation of one of the courses at our study program. A substantial part of our students was worried that many of the lecturers mentioned research, topics and research literature that were not part of the syllabus. One of the students even wrote: *‘I don’t know why many of the lecturers keep referring to topics that are not part of our syllabus. That’s of no use for me—neither for the exams, nor for my coming job.’*

Evaluations play a very important role in our quality assurance processes, and while we agree that evaluations obviously are a very important part of the refinement of our teaching and an instrumental part of the student engagement and democratization of higher education, we also want to emphasize the need for sensitive evaluation practices in higher education, and not practices where students are treated as customers and where evaluations serve as simple satisfaction surveys. Customers do not always have the best notions of quality (as evidenced in the example above), and although student influence is extremely important, there are deeper dimensions to higher education and teaching into which students necessarily have fewer insights (Long 2010). Some of these aspects require a longer-term view, which may create tensions between individual student preferences (based on evaluations) and what from an institutional and educational point of view is considered desirable.

A hallmark of quality for universities is *relevance*, meaning how employable students are. In many ways, this is highly reasonable, because neither students themselves, universities nor society have an interest in educating students for unemployment. However, Gibbs (2015) analyses what a university context driven by employability and efficiency measures means for students, and he argues that current higher education strategies aim (too much) at the expedient, developing skills that lead to employment. As a consequence, students are treated as investors of human capital seeking a monetary return in the form of higher salaries and taxes

(Busch 2017). In this notion of education, education is understood as a consumption good and an investment and it becomes a purely technical project in which students are considered incentive-driven subjects who follow their self-interests (building the best possible CV, getting the best possible grades, and having the best possible job) (Larsen 2015). This specific view of the student aligns perfectly with the governmentality required of neoliberalism (Sugarman 2015).

Moreover, students do anything to stand out from their peers in the hunt for a good job and impressive CVs. They opt for excellence, but paradoxically our current system is more likely to produce mediocrity. This is at least Long's (2010) point as he describes how conformity and mediocrity are imposed upon universities because standardized quality procedures must be followed and certain behaviors become expected.

Let's Stop Talking About Quality

In the concluding part of the paper, we will point to a couple of alternative ways of addressing quality in higher education.

Give Quality Assurance Systems a Break

Korsgaard and Mortensen (2017) have written a paper on inclusive education in which they urge researchers and practitioners to begin to ask educational questions of inclusion, as opposed to inclusive questions of education. In the same vein, our point is that we should start asking educational questions of quality instead of quality questions of higher education. Or maybe even better: We should stop talking about quality, since the quality assurance systems have distorted the notion of quality. The concept of quality no longer makes meaning. It has become a buzzword used by stakeholders in a 'pseudoqualispeak' where universities are urged to improve quality while being downsized at the same time. Quality is a constructed concept saturated with values (Moss 2014). Moss argues how the use of quality in education is used to mask the political nature of education. The problem is that the current use of quality (as it is seen in the quality assurance systems) has infected higher education. As a consequence, we have forgotten the normative discussions and we have stopped discussing what we think is a good and desirable education. Instead, we have adopted the quality discourse and reduced normative and educational questions to a matter of standardized quality measures. By doing this, the valuation of higher education has been delegated to stakeholders who uncritically equal good education and research with the standards in the quality assurance systems.

Although it might seem unrealistic, our stance is thus that the notion of quality should be abandoned. Writing about early childhood education, Moss gets to the same conclusion:

I choose to leave it. I find no place for ‘quality’, either in its vapid form as a meaningless feel-good label or in its more troubling use as shorthand for tightly defined human technologies that act as effective means to produce predetermined outcomes. Choosing not to use ‘quality’ frees me up to think differently. I choose instead to title my story in a way that proclaims what I value and desire, clearly stating what for me would make for a good early childhood education: democracy, experimentation, potentiality. (Moss 2014: 77)

Re-Read Humboldt

In many ways, it seems the Humboldtian notion of the university is threatened or has been thrown out with the bathwater. Long (2010) bemoans how higher education has lost sight of Humboldt, and he calls for a return to an academic-oriented institution. This institution is less fixated on profit and more on Humboldt’s principles: unity of research and teaching; freedom of teaching; and academic autonomy (Long 2010: 463).

Long further describes how Humboldt often quoted Count Mirabeau’s sentiments:

Education will be good to the extent that it suffers no outside intervention; it will be all the more effective, the greater the latitude left to the diligence of the teachers and the emulation of their pupils. (Long 2010: 463)

Education with no outside intervention is an illusion in modern-day universities. What still makes Humboldt highly relevant and up to date is the need for academic autonomy. Stakeholders have to show trust in universities. Higher education is facing an abundance of standardized regulatory tools (like the quality assurance systems). But one size does not fit all, and as a consequence, universities are robbed of their autonomy and creativity, and they are losing sight of what in fact is local and time bound.

The Finnish professor of education, Sahlberg (2011), has analyzed how education in general has been marked by what he terms a “Global Educational Reform Movement” (GERM). According to Sahlberg, GERM has emerged since the 1980s and has increasingly been adopted as an educational orthodoxy marked by standardization, competition, standardization, privatization, and devaluation of teachers. Sahlberg describes how the Finnish educational system in the last 20 years has received a lot of attention because Finnish students get high PISA-scores. According to Sahlberg, the paradox is that the Finnish educational system has avoided GERM. Instead, the Finnish school is based on local decision-making, trust in teachers, and nonstandardized procedures.

Concluding Remarks

Our purpose has not been to make a romantic remark about academia in the good old days. We are not arguing that everything used to be perfect in the days who were. Instead, the purpose of the article has been to raise serious concerns about the quality assurance systems in higher education, because these systems, in our view, basically are threatening the *raison d'être* of universities. The quality assurance systems are standardized regulatory tools which rather than enhancing quality in higher education are undermining it. Throughout the article, we have argued that the quality assurance systems represent a self-referring notion of quality with massive negative consequences for both students, academic staff, and higher education in general. We firmly believe that alternatives to resist the neoliberal educational policies and the standardized quality regimes are highly needed—and the first two important steps in this process would firstly be to abandon the rigid and standardized notion of quality that is being imposed on higher education these years and secondly to return to an academically and educationally oriented notion of universities that insist on the virtues of academic autonomy and freedom.

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Chapter 27

Higher Education: From Intellectual Asylum and Fulfilling of Social Orders to Creating Arenas for Scientific Revolutions



Jaán Valsiner

This book is burgeoning with feelings of tension about the current directions of higher education in the World. On the one side, we hear the story of rapid progress in the productivity, accountability and societal applicability of the results of higher education. The coming of waves of new technologies into universities is seen as bringing the ivory tower into an epistemic marketplace. At the same time, we hear equally powerful voices describing administrative over-bureaucratization, cutting out relevant areas of basic science from *curriculae*, mindless collecting of “points” towards “earning” a degree, or of abuses of journals’ “impact factors” in faculty tenure and promotion decisions. Students confess of fear—rather than pleasure—in their study (Dick et al. 2018) and point to the unproductive nature of examinations (Eckerdal 2018). Fear is also evident on the other end—when a university rector commits suicide (Falção 2018), and it could be explained that any creative management effort by an administrator might easily be seen as “corruption” as that label is increasingly used in our public discourses. And then there is the persistent calamity story of “not enough funding”—together with increasing grant overhead percentages and growing administrative structures in the US universities. Yet the whole system Worldwide struggles with economic insufficiencies—more so in the areas of the humanities than natural sciences (Budwig 2018; Greenberg 2018). It is precisely the *Geisteswissenschaften* that is the core of knowledge creation—also in the natural sciences. Something is deeply wrong in the domain of higher education systems all around the World.

The issue is more profound than simple lack of resources. The neoliberal sword is up in the air ready to decapitate the liberal education traditions in the name of efficiency and productivity (Szulevicz and Feilberg 2018). The government-accredited *curriculae* and managed textbooks homogenize what the “required knowledge” is for gaining the college and university degrees and lecturing—rather than problem-based learning (Budwig 2018; Tanggaard 2018)—remains the main vehicle of “knowledge delivery” in the universities of the twenty-first century.

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Even if in some countries—like Denmark—there is still some flexibility left in between different “knowledge bases”, the focus on *delivery* rather than *creative reconstruction* is becoming dominant. There is also the effort within the American Association of Colleges and Universities to enhance students’ initiative in knowledge building, but stopping short of complete involvement of young students in full new knowledge construction efforts as apprentices. However, enablement of student initiative is complicated in a social environment that remains lecture format dominant.

Lecture format in contemporary universities is a good example of the tension between power and counter-power. The professor assumes the power role—often designated as such by furniture (“lectern”) and control over the presentational information technology. At the same time when the instructor attempts to present a power-pointed show of persuasive message of his or her lecture to hundreds of students in an amphitheatrical lecture room, nothing stops each the many students from checking the veridicality of the message on the Internet, or just chat on their Facebook through the advanced computer technologies they carry around in their bags. The difficulties of legislating non-use of cellular phones in examination rooms illustrate the paradoxical nature of setting borders on access in a technological universe of easy access.

Our contemporary reality is new. The “lecture hall” in twenty-first-century universities has no borders, and the professor has no privilege as a living depository of knowledge. Internet surpasses him or her—yet not in full. The task of organizing the overwhelming flow of information still remains with the teacher. In fact, as the flow of messages intensifies in a society the task of orienting the students to eliminate misinformational, poorly substantiated, and exaggerated messages from students’ consideration, remains. Professors become “guidance counsellors” in the students’ efforts to relate with the booming and buzzing confusions of strongly suggested knowledge.

The tension is deeper than the change in traditional roles of teachers and students in the higher education context. What is happening in contemporary higher education is the tension between the goals of proliferation of existing information and the production of new knowledge. The former is certain—it can be defined by the political actions about what is included or excluded from *curriculae* and textbooks. It is administratively controllable, and its usability in a society can be determined. The latter is in principle indeterminate, as Michael Polanyi has pointed out

Scientific discovery reveals new knowledge, but the new vision that accompanies it is not knowledge. It is *less* than knowledge, for it is a guess; but it is *more* than knowledge, for it is a foreknowledge of things unknown and at present perhaps inconceivable. Our vision of the general nature of things is our guide for the interpretation of all future experience. Such guidance is indispensable. Theories of the scientific method which try to explain the establishment of scientific truth by any purely objective formal procedure are doomed to failure. Any process of enquiry unguided by intellectual passions would inevitably spread out into a desert of trivialities. (Polanyi 1962, p. 135)

The act of producing new knowledge is inherently unpredictable and largely dependent on the basic abstracted understandings that the seemingly useless

“classic” pillars of liberal education—languages, mathematics, philosophy—have provided for centuries. The elimination of such classic knowledge domains from contemporary universities by claims of their “unproductivity” (well described in Paycha 2018) seems to be an administrative silent equivalent of the public burnings of daemonic books by various form of inquisitions in history, what is at stake is the basic question—is higher education today a place for guiding young aspiring students towards empowering them towards creating new knowledge (becoming producers of innovations), or—is it a training ground for certified users of existing knowledge (becoming educated and knowledgeable consumers)? With all of our globalizing societies increasingly becoming dependent upon and demanding of mass consumption, it is the latter orientation that seems to increase its stake in public education systems.

But production of new knowledge somehow needs to happen. Where is it in the contemporary higher education? How can one expect the emergence of breakthroughs in our knowledge in the context of focus on recurrent grant writing (of which near 90% fail), textbook use in mandatory courses, and the overflow of each person endlessly evaluating every other person involved in the academic job system. The substance—setting the stage for new knowledge construction—gets lost in the middle of these administrative exercises of mundane kind.

The “Humboldt Myth”: Societal Idealism Contra Social Power Realities

Academics are naïve. They like to believe in the beautiful ideals of academic freedom and the relevance of their lifeworks. Ever since Wilhelm von Humboldt back in 1809 outlined his ethical goals for a university (Humboldt 1990/1809) the discourses about universities and higher learning have built on four tensions (Ash 2006, p. 246).

1. **Primacy of *Bildung* through generalized basic science (*Wissenschaft*) over its applications.** It is only through encoding our knowledge in abstracted and generalized forms—rather than by automatic data gathering (“big data”) that innovations in concrete situations can emerge. This belief was a century later (Katona 1940; Tanggaard 2014; Wertheimer 1945) proven to be true by psychological investigations of cognitive problem-solving and creativity. Despite this, the history of administrative practices of higher education by the beginning of the twenty-first century has set up the very opposite as the sociopolitical norm. As a result, we observe the guidance for researchers—by funding priorities and “productivity” criteria—towards the primacy of applied science over its basic roots. From a Humboldtian perspective, this is a myopic strategy that undermines longer-term innovation prospects. Yet it is a preferred perspective for short-term elected political leaders whose interests involve showing the use

of science for “the society” during their limited terms of democratically arranged power roles.

2. **All science is one.** This claim could make sense in 1809 before the history of separation of the *Naturwissenschaften* and *Geisteswissenschaften* during the rest of the nineteenth century (Valsiner 2012). That the ways in which human minds work in science is similar to that of poets or artists can be seen in various accounts by Nobel Prize winners. Psychologically, it is the generalized process of imagination that makes both arts and sciences possible (Tateo 2018). The exclusive separation—in English language terms—of the sciences from the humanities has led to the administrative practices of cutting out from universities not only abstractive science (mathematics—Paycha 2018) but also of basic know-how in the humanities—philosophy, classic languages, etc. From the perspective of the “new management practices” these high cost/low student enrolment courses are an “economic waste” and can be eliminated. The damage such intervention does to continuity of knowledge creation in the long run which is obvious—once these fields are eliminated from the higher education systems and their carriers—high-level specialists—are exited from universities and losing their roles in educating younger generations the continuity of knowledge becomes irreversibly lost.
3. **Teaching and research are united.** In 1809, it was obviously easy for Humboldt to emphasize such unity. Teaching in universities was done by academics who at the same time were doing key research at the top levels of knowledge in their fields. The situation is quite different in the twenty-first century where the administrative systems have started to segregate the university “teachers” (nowadays, often hired on part-time contracts) from “professors who do research” (tenured and with reduced or absent teaching loads). This is an inevitable result of the increasing budgetary difficulties of universities and the reliance on New Public Management of universities in demonstrating timely success in students’ acquisition of “textbook knowledge” (becoming educated consumers of existing knowledge). The question of who is to produce new knowledge—the focus on “revolutionary science” in terms of Thomas Kuhn—is left without sociopolitical focus. Giving up the Humboldtian ideal here leads to reduction of the potential for innovation within the system of higher education.
4. **Freedom.** In order to arrive at new innovations, the human minds need to operate in an atmosphere of academic freedom. Our contemporary curricularization of university studies—mandated by the political goals of the “Bologna Process” under the claim of making the higher education comparable across countries—is a concrete act of eliminating the academic freedom in Humboldt’s sense. A positively valued goal—comparability and freedom of geographical (inter-institutional) movement of persons—has resulted in the limitation of academic freedom of minds to embark on journeys of new intellectual adventures.

The issue of autonomy of the intellectual endeavours within institutions of higher learning is not new in history. Different rulers and social power holders of the past have had ambivalent orientations towards the freedoms of thought that higher forms

of study have acclaimed. New knowledge that can be created in any place—university, research institute, a café or tavern where philosophers meet—can be both dangerous and beneficial for the holders of social power. One needs to view the formulation of the principles of academic freedom by Humboldt back in 1809 as an act of dialogue with the prevailing practices of limiting such freedom in the previous century. That the issue recurs in the twenty-first century hence not surprising—the relations between the goals of administrative, economic and political control over the potential innovations clash with the spirit of innovations itself. Only in our time, it is conveniently hidden behind the positive-sounding notions of “public accountability” (“spending taxpayers’ money”) and “efficiency” (counting the success of *obtaining* institutionally awarded research grants *as if* it equalled the innovations promised in the grant applications and accepted by the institutional reviewers). One can generalize—in any period of history of higher education the activities in universities have been targets of social control and selective appropriation of the politically preferential expected results of such activities. Economic globalization of today’s world is combined with political guidance of the activities in higher education towards training educated consumers of the ever-changing fashions of intellectual consumer goods—administrative guidelines, social norms regulating ways of consumption, etc. The growth of producers is left aside—with the result that often it is done by dropouts from higher education systems. At the very same time, the institutional discourses about guaranteeing “quality” of higher education, together with “comparability” across systems of education of different countries, become intensified. What is assumed by the common sense notion of *quality* becomes institutionally determined by the systems of *assessment* of “quality” as it is predetermined by the institutional political interests. The result is a complete reversal of the notion of quality—its expropriation from the decision sphere of the students (who are concerned by the *real* quality of their education) to that of institutions that introduce new regulations upon the workload of students (Szulevicz and Feilberg 2018). The notion of “quality” loses its connections with the real education of students and becomes an institutional catchword to make students into prescribed consumers of the smorgasbord of educational units of different work hours value (ECTS points) attached to them. The expected result is not real quality nor efficiency, but strategic collection of the “points” to arrive at the celebrations at the delivery of the next certificate of having gone through the educational machine. The latter is formally efficient, but lacks content.

Efficient Stagnation: Higher Education as an Object of Consumption

It could be claimed that our contemporary systems of higher education—despite their frequent call for increasing “efficiency” and “entrepreneurship” to be brought to higher education—fail precisely to do what is being proclaimed. As Lutsenko

(2018) points out, the basic principles of entrepreneurship entail three components that need to work together—*innovativeness*, *proactiveness* and *risk-taking*. Starting from the last—in constantly underbudgeted university systems all over the World (Falçao 2018; Greenberg 2018; Stavytsky 2018)—risk taking is not the easiest and most forthcoming activity of university administrations. The component of *proactiveness* can be observed in its negative connotation—proactive cutting of knowledge areas that promise no direct employment to university graduates, together with some move towards a balanced budget of the higher education system. The first—and foremost—characteristic of entrepreneurship, *innovativeness*, can also be observed in its local administrative forms of economizing, rather than finding ways for creating new academic knowledge under indeed limited resources. These economizing practices entail new controls over *curriculae*, practices of hiring part-time rather than full-time faculty to cover the teaching of courses without developing the research counterpart to the courses. In short—the task of *innovativeness* becomes translated into innovative maintenance of the *status quo* of universities the main function is to produce maximum number of persons with education verification certificates of various kinds. Creating new forms for innovation of knowledge is counterproductive and risky in this enterprise of success in the new university as a degree “factory”. Increasingly—given the budget deficits—we can observe the widening of the *personal privatization*¹ of higher education—it is the aspiring students who are given the task of paying the bills for their earning the desired certificates after participation in the curricular activities. Higher education today is increasingly becoming a product to be consumed—rather than an arena for enablement of the future productivity of the students who study for their future—and not for the maintenance of the social standing of the institution (Mihalits and Rodax 2018). Once again, social institutions have accomplished the trick of taking over control of the persons in society by persuading them that the institutional system works for their benefit even if there is no immediate tangible outcome.²

¹In contrast to *corporational* privatization of higher education that supports different research efforts in universities with the move of the resulting intellectual innovations from the public to the patented corporate knowledge domains.

²This general mechanism can be summarized in one sentence: “***We (institution) tell you that you do feel happy with the kinds of conditions we offer you***”. A directed institutional imperative for how the autonomous person *must feel/think on their own initiative*, together with the unconditional blocking of any doubt in the trustability of the source of the message is the usual way of bringing personal worlds in line with societal expectations.

Repairing the Rupture: Back to Content

The students who go through the labyrinths of educational systems are autonomous and goal-oriented persons who increasingly carry the burden of funding their own studies. It may be exactly here where the potential innovation into the universities could begin. As Heidmets et al. (2018) point out, students are interested in enhancing the quality of teaching and learning in terms of teaching methods and the learner-centeredness of all of the activities in the universities. For them, in addition to the degree (certificate) it is the future usability of the university education that matters. Yet—under conditions where current university leavers may expect to take on jobs that do not yet exist (65%—by estimate of Schwab and Samans 2016)—it would be nonsensical to discuss the value of immediate transfer of curricular knowledge to relevant social practices after graduation. What is needed is generalized preparation of people who finish their higher education to creatively enter into new domains of intellectual and practical challenges. With that in mind, the higher education systems in the twenty-first century need to rethink the Humboldtian basic principles, maybe in new forms.

A New Return to Humboldt—World Citizens Become Knowledge Makers

The ideal of breaking through the borders of local identities and becoming “world citizens” can serve two functions. First, there is the one almost achieved by the economic and social processes of globalization—people of all the world now are active participants in the consumer markets. The accessibility to the purchases of consumer goods is approaching the end of country and customs barriers. The impact for economy is obvious.

However, what has not happened so far is the emergence of worldwide producer collectives of new ideas. Instead of captivating the worldwide students into little enclaves of famous Western universities offering their degrees in their overseas campuses—which amounts to the exportation of consumer products (certificates) abroad to be awarded for curricular work accomplished by preset plan. A X-bridge university degree earned in a Malaysian (or any other) rural campus is not the beginning of creating interculturally valid new knowledge but merely expanding the international representativeness of the prestigious alumni club. The core for potential innovation of knowledge through international collaboration begins in **the reorganization of the universities as primary producers of knowledge** through the restless eagerness of the young learners. It is the innovative powers of students that—instead of being delegated to fear (Dick et al. 2018)—can be mobilized to turn the process of study into that of problem-based instructions in relations between the university and the world outside (Tanggaard 2014, 2018) and system of examinations that would support innovation. Existing knowledge in its

generalized form needs to be mastered in full—with the addition to it of the component of innovation (see the 100+ examination idea in Eckerdal 2018).

A word of caution may be in order here. Claiming such return to a new state of higher education—innovation rather than certification focused—would remain an empty call unless a realistic economic scenario could be exemplified. Universities today are faced with different realities—how to avoid bankruptcy—both in knowledge and in finances—of the current systems of higher education. Under these conditions, any claim for a return to the future would remain mute. Yet the future is going to turn into the present—and our readiness for creating new knowledge depends upon our entrepreneurial readiness to think of higher education in new—non-ministerial and deeply entrepreneurial—ways.³

University Without Borders

A solution may be in the establishment of a university without borders—which is also an university without a statically fixed home base. A university of such kind may have “intellectual hubs” in many places around the World—in research groups that operate within existing institutions of higher education—but it does not “belong” to any country (and its ministry of education). This is possible today due to the new information technologies eliminating borders of traditional kinds, making collaboration in innovation potentially highly rapid. Such university has no need for lecture halls and administrative buildings—owning or renting them—since all of its activities are based on intensive Internet-based activities.⁴ In order not to need administrative buildings such university will not have administrative staff beyond the optimally small necessity. There is no need to build sports facilities to persuade the parents of the potential students that this university is the best for their son or daughter. Personal meetings between students and faculty occur in episodic short workshops in different parts of the World. The costs for administrative

³A recent initiative in this direction within the USA is the Minerva University (<https://www.minerva.kgi.edu/academics/>)—established in California in 2012 with very strict acceptance rate (2% of the top) and small groups of students (paying half of the tuition rates of the US Ivy League private universities) studying in seminar-oriented forms of *Bildung*. It is an experiment within US higher education to build on the best features of existing universities while eliminating the inefficient ones..

⁴There already exist a number of completely internet-based universities that offer degrees in different areas. Their focus is to compete with regular (“face-to-face”) colleges and universities in providing degrees as a result on e-learning (e.g. <https://www.capella.edu>). They make the existing “degree factory” function of universities more intense and precise, based on business model of making a product. This extension of the traditional institution into the virtual sphere is neither productive (Tanggaard 2018) nor pleasant (Mihalits and Rodax 2018). In contrast, the University without Borders offers the Internet-based freedom space for developing innovation capabilities of students through joint problem-solving efforts rather than successful passing of all textbook-based examination tasks.

functions are kept minimal since (a) the system of moving towards degrees is kept flexible and under the guidance of professors and (b) the only relevant support staff is that of information technology specialists. The participants in the work in such university will be located in their home bases all over the World while interacting actively on the new innovations computer platforms of this new kind of “extra-terrestrial” university.

Technology affords creating an “offshore university”—a fully private collective institution which builds its creative structures on student fees and topically non-binding institutional financial support mechanisms. This topical non-interference is important because it rules out the appropriation interests by governmental and private businesses, allowing new knowledge to be created outside of the demands of concrete agendas of interested institutions. The contribution by institutions to the new form of university would be only allowed in terms of access to hiring the new knowledge making graduates after they finish their studies, rather than limiting their work during the studies in the direction of the interests of a given corporation.

The combination of private and business financing with such “delayed gratification” to the donors guarantees the “freedom space” for the students during their course of studies together with job expectations after their studies are finished. This would be in full concordance with basic principles of science (Kryachko 2018). It also fits with the proactive orientation of real entrepreneurship. Much has been mentioned about the New Public Management model of higher education resembling a stock market (Mihalits and Rodax 2018), and it is not surprising that such analogy has good resonance with people who believe in the market as the determiner of value of what is being traded. I would, however, move away from that analogy and introduce another market-linked notion that fits higher education better—the initial public offering (IPO). In the economic realities, *before* a company becomes listed on a stock market its value is being built up in the private sphere. All is done in preparation for the act of “going public” (introducing an IPO) so that the value to to-be-publicly traded shares could be as high as possible. In a similar vein, the preparation of a young specialist through the sequence of higher education (bachelor → masters → doctorate) is similar to the preparation for an IPO offering. The current market during that time has no *direct* impact upon the preparation of the specialist, while the *anticipations* of the expectations of the marked after the IPO happens obviously are taken into account. This means that during the studies the students need to be protected from being vulnerable to the market-as-is through the setup of the new university, while all efforts are made in the domain of co-responsible learning (Tanggaard 2018) by students and faculty jointly to prepare the young specialist for the task after graduation, knowingly ahead of other potential competitors who come out of the standard institutionalized higher education frameworks. The ideals of “community of practice” can be realized in the context of such “freedom arenas”—protected by the privatized

corporational nature of the University Without Borders⁵—precisely to be in a better position to deal with societal issues after the study years are over. The need to account for hours spent on all the tasks that co-responsive learning requires from both faculty and students would be unnecessary once content-based academic activities are returned to the university. There will be no need to try to fit the spontaneous activity—such as nights with friends interpreting philosophical meta-theoretical texts (Mihalits and Rodax 2018)—into a straightjacket of some time accounting sheets for the benefit of the bureaucracy. Instead, all these activities are geared towards the production of what matters—new knowledge, synopses of existing know-how, and set of publications that surpass those of competitors from traditional universities. There is no need for “quality assurance systems”—the quality of the learning outcomes becomes tested in the practice of generating new knowledge. Neither is there any administrative officer to work on such “control” task since the quality development task is returned to the ones who are going to produce new knowledge. Administrators never do that—under being best possible conditions they may enable others to do it.

In short—this scenario of personalized privatization of higher education would “beat” the New Management ideas of neoliberal kinds, in “their own game”, so to say. By using the privatization mechanisms, it would create the possibility of return to the Humboldt ideals within the university studies. Yet it is fully dependent on the macro-societal competition needs for the graduates. It is precisely for guaranteeing the advantage of intellectual productivity facilitated by Humboldtian principles that is then prepared for the public entrance into the over-bureaucratized systems of the public worlds (“civil societies”—Valsiner 2005) that the content is returned to higher education (see Szulevicz and Feilberg 2018) without jeopardizing the values of public knowledge. This would satisfy the call for honesty in our educating of students that Clegg et al. (2018) emphasized—the students would know the realities of academia but their private university system allows them to build-up resistances to the unreasonable demands together with substantive build-up of knowledge and of the potential for new understandings.

By its structure, the University Without Borders is a conglomerate of democratically set up research groups led by faculty. The set of basic questions to be the foci of the study in the university will be set by the team of planners who would

⁵This protection can be achieved by running the university in ways similar to an insurance company—students pay monthly premiums (which must be lower than in comparable regular fee-demanding universities) which go into the investment process to multiply the money through stock market operations. Institutions interested in having the chance to make first offers to students when they near graduation can make charitable contributions to the University. Faculty who lead the co-learning tasks will be given honoraria (not fixed salaries) for their work depending upon the content-based productivity of their work. The face-to-face meeting of the research team members occurs in short 3–5 day workshops as those are needed for joint work and are paid by the university. The administrative costs will be strictly kept to a minimum (e.g. 5% of the budget) So, in sum—the students pay for their higher education, but also are provided study conditions they need. Financially the well-being of the university is fluid—depending on enrolment and stock market conditions.

recommend who from all over the World would be invited to the faculty of the new university. Given the worldwide and fluid nature of the university a faculty of 200 or so selected specialists would start to organize Study Groups by particular topics that call for innovation (around 10 operating at any given time). The groups are interdisciplinary. Innovations patented in any country where it is appropriate.

In terms of basic study, students will be enrolled in integrative Internet seminars at which basic knowledge becomes acquired and at the end (when the student is ready) examined through the 100+ system (Eckerdal 2018). The examination can be re-taken as many times as needed to arrive at the 100+ condition (full knowledge of the basics + innovation). It is not assessment of existing knowledge as if it were a quantifiable substance but its generative potential for creating new knowledge that the new waves of technological innovations need.

Final Conclusion

As it happens, ideas that emerge at first looking productive and liberating may end up—modulated by their institutional appropriation—exactly producing opposite realities in contrast to their initial promises. Over the past decades and largely led by the European redesigning of the EU educational framework (the “Bologna Model”) borrowing from North American forms, what has been created is a system where quality in higher education is redefined defined from content demands into the formal fulfilment of predefined quality standards (Szulevicz and Feilberg 2018). The initial promise of making the system of higher education forms mutually transparent and transferable has been shown to be difficult even within one country (Austria—Mihalits and Rodax 2018). In sum—I believe the “Bologna Model” has seriously harmed the goals of higher education Worldwide and it is best to let it pass into the oblivion of the many European politically motivated projects in which the manifest goals of improving quality for all end up in the quality being lowered by way of homogenization of the field. This is not a result of entrepreneurship working on open markets, but precisely its contrary—closing the heterogeneity of opportunities by an overload of centralized regulations and guidelines (Valsiner 2005, 2014, 2018a, b). The students in contemporary universities are being prepared to be well-trained consumers and informed “knowledge workers”—a kind of new societal group of *technoproleteriat*. Members of that social class of that kind are highly competent in application of specific new technologies in various areas of social life—but ill-prepared for developing new technologies. They are ready to do temporary jobs in their knowledge area—and administrative and corporational systems are ready to hire them for such fixed jobs.

However, critique of the existing organizational system would be useless unless a viable alternative is suggested. Having heard all over the World about the limits and decreases in the public funding systems of universities I could not think of an improvement being possible through the public domain. It is a kind of painful irony that the public systems that are proud of their democratic governance end up with

little forethought to the intellectual futures of their own societies. At the same time, privatization of formerly public-funded parts of higher education (e.g. the masters' level studies after reduction of public bachelor education from 4 to 3 years in the "Bologna Process") has been going on. Degrees—even doctoral degrees (e.g., Capella University in the USA)—can now be obtained by way of private pay from private sources. E-learning is proliferating even in public universities where regular lectures become available on Internet—not really utilizing the new possibilities of the new Internet technologies. A new look at higher education is needed (Budwig 2018), and hopefully the contributions to this volume set the stage for a serious rethinking about the current directions of the higher education system.

The contributors to this volume have described the whole deeply ambivalent field of the higher education today. The tensions proliferate Worldwide—there is a need for change. What I have outlined here is a scenario of radical use of the privatization mechanisms to bring the basic principles of Humboldt back to higher education—giving them the chance to show their productivity over the “new management practices” in the realm where the value of higher education is most strictly testable—that of readiness to innovate. In the long run, our knowledge will undergo innovations—within the contexts of universities, or elsewhere. What the role of current institutions of higher education in this remains, at this time, unclear. But one way or another new generations of knowledge makers will come onto the public scene. Will they be prepared for that by universities, or do they accomplish that role in resistance to demands of higher education. This remains an open question.

Acknowledgements I am grateful to Nancy Budwig, Lene Tanggaard, Luca Tateo and Virgil and Geanina Nae for productive suggestions on the earlier draft of this chapter.

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